

Appendix B

Public Scoping Meetings, and Resource Agency and Tribal Consultations

This Appendix includes information about public and agency scoping meetings and agency and Tribal consultations regarding the proposed expansion of HOODS, including:

- Scoping meeting comments
- Informal ESA consultation with USFWS
- Informal ESA, MMPA, and EFH consultations with NMFS
- Coordination with potentially affected tribes

This appendix is available for download via www.regulations.gov (Docket ID No. EPA-R09-OW-2020-0188) and at: <https://www.epa.gov/ocean-dumping/humboldt-open-ocean-disposal-site-hoods-documents>.

Public and agency scoping meetings comments August 2019

EPA and USACE held three separate public scoping meeting sessions at the Humboldt Bay Aquatic Center in Eureka, California, on August 5, 2019.

EPA and USACE also met with representatives from the Arcata offices of the USFWS, NOAA, and NMFS on August 6, 2019.

Finally, EPA and USACE gave an informational presentation at the California Coastal Commission's hearing at the Wharfinger Building in Eureka on August 8, 2019.

The materials presented at the public and agency scoping meetings are available on line at:
<https://www.epa.gov/ocean-dumping/humboldt-open-ocean-disposal-site-hoods-documents>

For Immediate Release: July 22, 2019

Media Contact: Soledad Calvino, 415-972-3512, calvino.maria@epa.gov

U.S. EPA to Host Public Meeting for Proposed Expansion of the Ocean Disposal Site for Humboldt Bay

Eureka, Calif. – The U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE) will be holding a public meeting to present alternatives for expanding the boundaries of the existing Humboldt Open Ocean Disposal Site (HOODS), which is nearing full capacity. Representatives from the EPA and USACE will be available to answer questions and share information.

The meeting will take place on **Monday August 5, 2019, at the Humboldt Bay Aquatic Center, Room 203, on 921 Waterfront Drive, Eureka.** There will be three identical sessions, which will include a presentation and an opportunity to give early input:

- 10-11:30 a.m.
- 2:30-4:30 p.m.
- 7:00-8:30 p.m.

The purpose of the meeting sessions is to provide the community with information about the HOODS, the alternatives being considered for expanding its boundaries, and potential future options for placing clean dredged sand nearshore. The meeting attendees will have an opportunity to talk one-on-one with EPA and USACE about HOODS and related issues. EPA is in the process of preparing an environmental assessment regarding the expansion. Once this assessment is completed there will be formal public comment opportunities prior to a final decision concerning the proposed expansion. A final decision is expected in 2020.

Background

The HOODS was established as a permanent ocean dredged material disposal site in 1995 for Humboldt Bay and the north coast of California. To maintain safe navigation for recreational and commercial vessels, approximately 1 million cubic yards of clean sediment is dredged from Humboldt Bay each year. To date over 25 million cubic yards of clean sediment has been successfully disposed at HOODS without any significant adverse environmental impacts.

To learn more about HOODS, please visit: <https://www.epa.gov/ocean-dumping/humboldt-open-ocean-disposal-site-hoods-documents>

For additional information about EPA Region 9's Ocean Dumping Program, please visit: <https://www.epa.gov/ocean-dumping/managing-ocean-dumping-epa-region-9>

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August 5, 2019

**Scoping Comments Received at EPA-USACE Public Meetings,
Humboldt Bay Aquatic Center, Eureka, CA**

10 – 11:30 a.m. meeting (18 attendees)

- What is the contingency behind contamination?
- How many other dumping sites are also reaching their maximum?
- Will the EA cover only expansion or will it also cover dredging impacts and studies?
- There are many channels that are being dredged that are more silt and not sand – would those materials still be used for the nearshore beach option?
- Is there any potential to do a nearshore pilot project near the south (Eel River specifically)?
- Winds and waves are coming from the Northwest – is this part of what EPA is looking at? That this will help drive it back into the bay. The configuration of the channel to the north is completely different from this one here.
- In this scope, you are giving us one idea – and that is expansion. To analyze a whole suite of alternatives seems prudent at this time as we have so many other areas that would benefit from nearshore beach nourishment, etc. Levies are in disrepair and could be an alternative. We need to plan for long term – just expansion seems nearsighted.
- How does the East coast deal with nearshore issues and disposal sites that are reaching capacity?

2:30 – 4:30 p.m. meeting (2 attendees)

- Is anyone researching if any of the sand and sediment is coming from the North?
- In Santa Barbara – there are beaches where they are placing dredged material (dirty materials) that over time are becoming white sandy beaches – to build up their beach against erosion
- The Army Corp could be using the dredged sand into the nearshore rather than HOODS
- One of the major concerns that I (previous City Council member) have is that because this bay is smaller, and does NOT have the larger traffic/economy base – there is always a concern that Army Corp will have to spend their dredging budgets largely elsewhere – causing concern for safety of the fisherman and others trying to use the harbor.
- Is it any harder to get the Corp to drop the sand at the nearshore placement as opposed to the HOODS site?
- Is there any chance Army Corp will do any preventative sand traps at the entrance channel?
- Why are we not able to dredge more of the material? Who is deciding where we dredge less or more and how much each area can expect?
- How did the president's budget of 3.9 end up at 10 million?
- Do have a concern of not knowing what expansion will do to fishing and wave action – especially in the nearshore
- How does the nearshore dispersion differ than the HOODS dumping?
- If the nearshore demonstration site were to occur like in Oregon – would there need to be studies beforehand or would you be able to use that data or information – or how much would these things cost the Corp?

7 – 8:30 p.m. meeting (2 attendees)

- If you were able to implement the nearshore disposal site – would that extend the life of HOODS and by how much?
- Onshore disposal at the Humboldt recreation area – by the old pulp mill (remediation site)
- Beneficial uses are preferred (nearshore disposal)

- What is the amount of time the dredge vessels are doing each task (dredging, transportation, dumping, etc.)?
- Anything that could be done to deposit this material into an optimized location where it has a permanent place – such as the onshore disposal option?
- What research and calculations are there to show what type of dispersion or accumulation or transportation will result from the nearshore disposal?
- There are a number of diffusers already in place close to the nearshore location - and there are quite a few more that may also be planned in the near future

Public Meeting Attendees

(Not all attendees signed in)

Name	E-Mail
Diane Ashta	dianeekabishastha@gmail.com
Brandon Stevens	brandon.stevens@waterboards.ca.gov
Margaret Herbelin	mcherbelin@gmail.com
Joan & Ted Romo	humboldtred@rocketmail.com
Mark Longholz	mxmc@chevron.com
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Alec Ziegler	aziegler@pacaff.com
Larry Oetker	loetker@humboldtby.org
Pete Jacksen	pjacksen@greendiamond.com
Tom Marking	tmmarking@sbcglobal.net
Travis Schneider	tschneider@pacaff.com
Marian Brady	mbdesign@suddenlink.net
Mike Foget	mgoget@shn-engr.com
Brad Wilson	brad.wilson.pe@gmail.com

August 6, 2019

**Agency meeting with NOAA, USFWS, and NMFS
NMFS Office, Arcata, CA**

1:30 – 3:30 p.m. (CDFW via conference line)

- Would want to think more about the trade-off between option 1 & 2 – initial thoughts is alternative 1 would be better because it would be able to spread out the disturbance
- Ideally we would definitely be interested in the nearshore so there would be less demand for use of HOODS – however, would need to know more trade-off information regarding the logistics of the nearshore option and continued full use of HOODS
- Do we have a firm idea of how long the life of HOODS would be when the nearshore alternative is also used concurrently?
- Both of these options are outside of any known sensitive aquatic areas or habitats
- What about the contamination loads if there will be further dredging with additional HOODS capacity?
- How will the nearshore sediment disposal interact with the HOODS disposal site in the EA?
- The Columbia demonstration site has armored that area near the end of the jetty where the nearshore sand disposal is occurring – is there a way to differentiate where the sand is interacting and where it is the armored shoreline that is interacting regarding erosion and such in that area – and how would that relate to the nearshore site near the HOODS site?
- Was Crescent City dredged material also considered or just the Humboldt federal channels?
- As part of the alternatives did you look at creating a new site?
- Are the upcoming Jetty repairs something that should or have been considered regarding if the repairs will help with the sediment deposits and where dredging will be needed in the future?
- In terms of areas to consider for nearshore disposal you are pretty fixed in where you are able to consider due to distance and other constraints
- Diverting to the nearshore site would be cheaper to the Corp and EPA in extending the life of the HOODS
- Climate factors and changes over time – FWS has some properties north of the nearshore area and we are seeing significant scour of the dunes

Info regarding consultations – starting soon

- Concerns about sediment and contaminant pathways regarding species
- 3 potential turtle species in that area, as well as whales – main concerns will be EFH for ground fish, and critical habitat
- Wants to look for whether there are similar consultations out of the Santa Rosa office, to help facilitate consultation for this project
- Matt Goldsworthy - Will be the lead from NOAA (along with Jeff Jahn who will help to sort out internally who from NOAA will be the lead)
- Becky Ota, and Arn Aarrberg from California Department of Fish and Wildlife – no initial concerns
- Need to get the fisherman plugged in soon

Agency Attendees Susie Tharratt (USFWS)
 Jeff Jahn (NOAA)
 Liisa Schmoele (USFWS)
 Dan Friez (NMFS)
 Becky Ota (CDFW) (phone)

August 8, 2019

**California Coastal Commission comments
Wharfinger Building, Eureka, CA**

- Why is the limit 130 feet – not 100 feet?
- With regards to both HOODS and the nearshore – they are about the same distance from the entrance – why was this distance a requirement – is there any way we could be reducing the impacts from these distances regarding fuel usage and transportation pollution?
- In the past there was talk about using the outfall pipe for disposal of dredged materials from the marina – is that still an option?
- Not concerned about the logistics – more wonder if the outfall location was being considered
- Army Corp is not the only user of the HOODS site – so alternative areas and option for dumped dredged materials need to be considered that incorporate other interested parties outside of Army Corp

Informal ESA consultation with USFWS

From: Ross, Brian
Sent: Thursday, December 5, 2019 9:35 AM
To: Dan_Everson@FWS.gov
Cc: Jennifer_L_Norris@FWS.gov; Susie Tharratt (susie_tharratt@fws.gov) <susie_tharratt@fws.gov>; Tessa Beach (Tessa.E.Bernhardt@usace.army.mil) <Tessa.E.Bernhardt@usace.army.mil>
Subject: EPA consultation package to FWS re HOODS expansion - 08EACT00-2019-SLI-0503

Please view in HTML format

Hello Mr Everson,

EPA is pleased to provide the attached ESA consultation package concerning our proposed expansion of the existing Humboldt Open Ocean Disposal Site (HOODS) offshore of Eureka, California. This package includes our cover letter and assessment, plus an enclosure that lists best management practices for disposal at HOODS (these practices are applied as enforceable, mandatory conditions on any entity disposing of suitable sediment at HOODS). The original of this package is being mailed to you today. Note that this package is supplemented by the detailed Project Description provided to your staff earlier this year (email dated March 27, 2019 to Susie Tharratt).

As discussed in the attachment, EPA believes that the proposed expansion of HOODS will have:

- no effect on Fisher, northern spotted owl, western snowy plover, yellow-billed cuckoo, tidewater goby, or green sea turtles; and
- may affect but is unlikely to adversely affect marbled murrelet and short-tailed albatross.

We wish to express our thanks to your staff for their technical assistance to date as we prepared this consultation, including their willingness to meet with us in Arcata earlier this year and their informal review of the draft package. We recognize that this final package is coming to your office near the holidays. Please note that we do NOT need or expect an expedited review, as we are still preparing the final Environmental Assessment and proposed rule packages to support this action. We plan to have the proposed rule out for public comment by early summer, 2020.

Thank you in advance for your review, and we look forward to continuing to work closely with your office on this matter. Please contact me directly if you should have any questions, or desire additional information about our assessment.

Brian D. Ross

Dredging & Sediment Management Team

US EPA Region 9 (WTR-2-4)

75 Hawthorne Street

San Francisco, CA 94105

415-972-3475

Note: EPA cannot receive attachments larger than 20 MB.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

December 4, 2019

Mr. Dan Everson
Field Supervisor
US Fish and Wildlife Service
1655 Heindon Road
Arcata, California 95521

Consultation Code: 08EACT00-2019-SLI-0503

Dear Mr. Everson:

The U.S. Environmental Protection Agency (EPA) is preparing an Environmental Assessment (EA) for the proposed expansion of the Humboldt Open Ocean Disposal Site (HOODS) off Humboldt Bay, California. EPA originally designated HOODS via rulemaking in 1995, based on a full EIS. Today, HOODS is nearing capacity and expansion is needed to allow EPA and USACE to continue to manage dredged material disposal in a manner that avoids any significant effect on wave behavior and safe navigation in the vicinity of the Humboldt Harbor entrance channel, while minimizing any adverse impact to marine species, habitats, and human uses of the ocean.

Based on our attached assessment, using the best scientific and commercial data available, EPA has determined that the proposed expansion of the HOODS boundary is not likely to adversely affect ESA-listed species managed by the US Fish and Wildlife Service (USFWS). We respectfully request that USFWS concur with this determination.

Please contact Brian Ross of my staff by e-mail (ross.brian@epa.gov) or by phone (415-972-3475) if there are any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ellen Blake".

Ellen Blake
Assistant Director, Water Division

Enclosure: Current Mandatory Site Use Conditions for HOODS

Cc: Tessa Beach (USACE)

**EPA Analysis for ESA Consultation:
Proposed Expansion of the Humboldt Open Ocean Disposal Site (HOODS)
November 2019**

Background

Humboldt Harbor and Bay is located in Humboldt County on the coast of Northern California (**Figure 1**), approximately 225 nautical miles north of San Francisco and approximately 156 nautical miles south of Coos Bay, Oregon. Humboldt Bay is the second largest coastal estuary in California. It is a “harbor of refuge” and is the only harbor between San Francisco and Coos Bay with channels large enough to permit the passage of large ocean-going vessels. Annual dredging of the federal deep-draft navigation channels and other permitted shipping facilities serving Humboldt Bay is necessary to maintain safe navigation to and from the Bay. An average of about 1 million cubic yards (cy) of accumulated sediment is dredged each year for this purpose, the vast majority by the US Army Corps of Engineers (USACE). The continued availability of an ocean dredged material disposal site in the vicinity of Humboldt Bay is crucial to the maritime-related economy of the region.

The Humboldt Open Ocean Disposal Site (HOODS, see Figure 1) was designated by EPA in 1995. EPA consulted with USFWS as part of the EIS process that supported that rulemaking¹. At that time the consultation focused on tidewater goby, marbled Murrelet, and green sturgeon. Since 1995 there have been changes to the listed species subject to USFWS management that could potentially occur in the vicinity of HOODS. In addition, HOODS has experienced significant mounding since its designation, creating the possibility of potentially hazardous navigation conditions in the future if the mounding worsens. Today, HOODS has limited capacity to receive future dredge material disposal. While the situation does not constitute an imminent hazard, EPA and USACE have determined that expedited management action is required to prevent adverse conditions from developing. If disposal capacity at HOODS is not expanded soon, the ability to maintain Humboldt Bay navigation channels, and the commercial and recreational uses they support, is at risk. For all of these reasons EPA believes that updating the consultation for HOODS is appropriate.

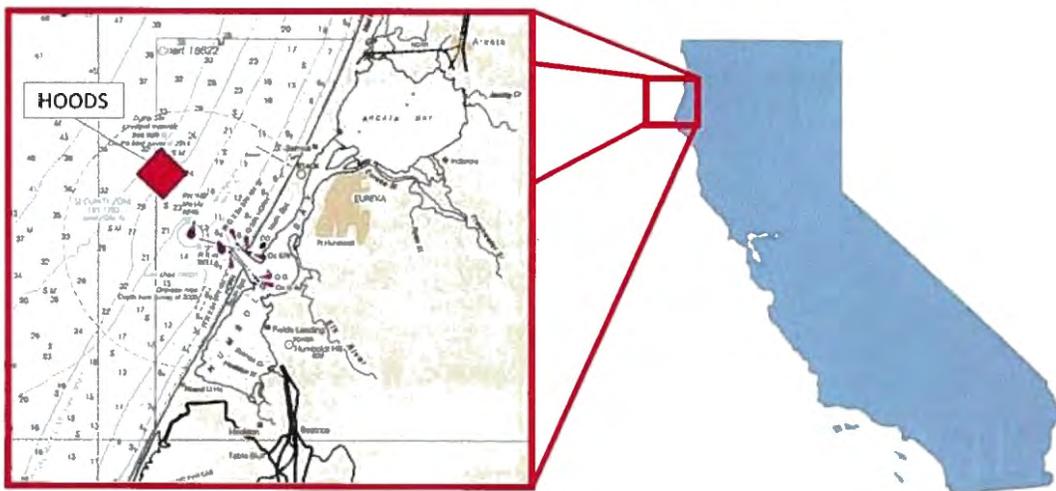


Figure 1. HOODS vicinity map.

¹ The 1995 FEIS and other referenced documents supporting the HOODS expansion are available at: <https://www.epa.gov/ocean-dumping/humboldt-open-ocean-disposal-site-hoods-documents>

Proposed Project

EPA is evaluating expanding the existing HOODS boundary by either 1/2 nautical mile to the north and west, or by 1 nautical mile to the north and west² (Figure 2 shows the full expansion study area, and the smaller site expansion alternatives within it). Under either alternative, the proposed expansion of HOODS will continue to meet all criteria and factors set forth in the Ocean Dumping regulations published at Parts 228.5 and 228.6 of Title 40 CFR. Use of HOODS would continue to be for disposal of suitable, non-toxic sediment dredged by USACE from the federally authorized navigation channels in Humboldt Bay, as well as for disposal of suitable, non-toxic dredged sediment from other permitted navigation dredging projects in the area.³ Disposal would also continue to occur under the terms of a Site Management and Monitoring Plan (SMMP) that sets forth Best Management Practices (BMPs) in the form of enforceable permit conditions, as well as site monitoring requirements and contingency actions if adverse impacts be identified. Expansion of HOODS would not increase the need for dredging in Humboldt Bay or the surrounding area, nor it is expected that the amount of disposal activity would increase from what has occurred since HOODS was designated in 1995. In fact, if nearshore sand placement occurs in the future the volume of sand disposed offshore at HOODS would actually decrease.⁴

Management of Disposal at HOODS

The current SMMP for HOODS was established in 2006. However, it has effectively been updated “in practice” several times since then, as EPA has modified the mandatory permit conditions for disposing at the site on a project-by-project basis in order to manage the growing sand mound. (The most recent mandatory permit conditions, which constitute enforceable BMPs for disposal operations, are enclosed.) EPA intends to publish a fully-updated SMMP to reflect the final site expansion alternative chosen through the EA and rulemaking process. If a nearshore sand placement site is established in the future, EPA will further update the HOODS SMMP to require nearshore sand placement whenever it is practicable and safe to do so, and to make any other changes to disposal practices at HOODS commensurate with a reduced need for sand to be disposed there. (For example, smaller volumes of sand placement at HOODS could be managed to allow infaunal organisms much more time to “re-work” thin deposits of dredged material into the native substrate before a next round of disposal occurs at the same spot. This would further minimize physical substrate changes within the site, as well as reduce the potential for future mounding.)

2. See detailed project description provided to your office separately (email from Brian Ross dated March 27, 2019).

3. In accordance with the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA) and the Ocean Dumping Regulations (40 CFR 227), USACE can only permit ocean disposal, and EPA will only concur in such disposal, when the dredged sediment is “suitable” for ocean disposal. Suitable is defined as sediment that has no more than “trace” levels of chemical pollutants as determined by bioassays showing that it is not directly toxic to marine organisms, and that any chemical pollutants present would not bioaccumulate in the food web to levels of ecological or human health concern.

4. EPA and USACE are also evaluating the potential for shallow nearshore placement (as a future alternative to deeper offshore disposal at HOODS) for some or all of the clean sand dredged from the Humboldt Bay entrance channels. If found to have no significant ancillary impacts, nearshore placement would be beneficial in that it would retain more sand in the local littoral cell to help provide resilience against coastal erosion and sea level rise. The potential nearshore placement site is discussed in the Project Description (provided earlier) and will be further assessed in the EA currently being developed. Though we are not actually proposing a nearshore site as part of the present action, we believe many aspects of the assessment provided here generally apply to nearshore placement as well.

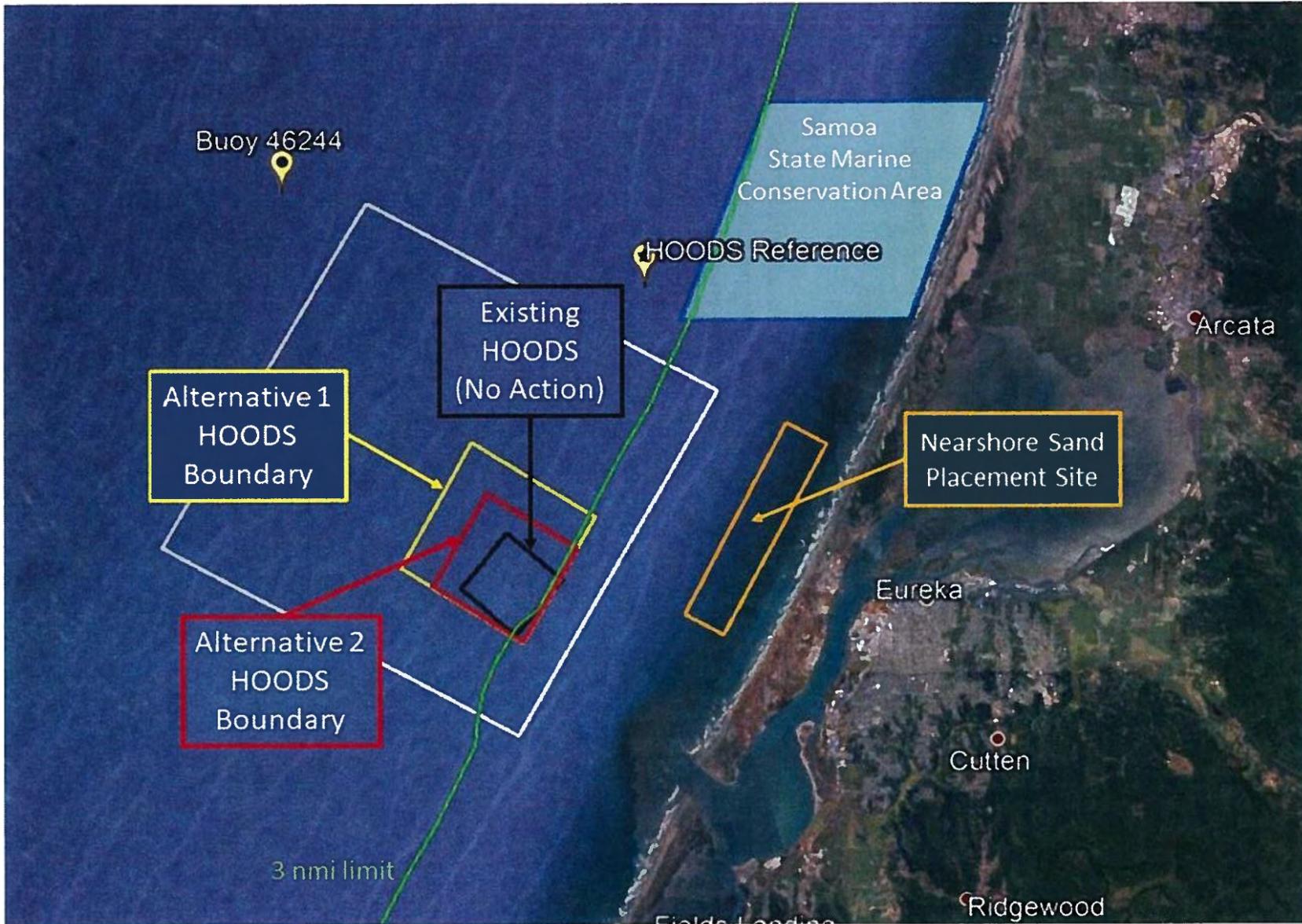


Figure 2. Proposed Action area, showing the current HOODS site and the two boundary expansion alternatives in relation to Humboldt Bay, the City of Eureka, and the Samoa State Marine Conservation Area. Alternative 1 (proposed action) would expand the existing boundaries by 1 nmi to the north and west, while Alternative 2 would expand the boundaries by ½ nmi. Also shown is the location of the potential Nearshore Sand Placement Site, the HOODS sediment reference testing site, and NOAA buoy 46244.

Lack of Disposal Impacts to Date at HOODS

This discussion addresses how EPA's designation process for ocean dredged material disposal sites avoids many impacts to ESA listed species from the beginning, how the dredged material evaluation process further minimizes impacts, and how extensive ocean disposal site monitoring has confirmed that no significant impacts have occurred over more than 20 years of ocean disposal activity at HOODS.

EPA's ocean disposal site designation process includes criteria for avoiding impacts to the aquatic environment and to human uses of the ocean to the maximum extent possible, within an economically feasible transport distance from the area where navigation dredging must occur. HOODS was designated in 1995 in compliance with these criteria. Specifically, the MPRSA regulations at 40 C.F.R. Part 228.5 - 228.6, set forth disposal site selection criteria that directly avoid or minimize impacts, including:

- Disposal activities must avoid existing fisheries and shellfisheries (228.5(a));
- Temporary water quality perturbations from disposal within the site must be reduced to ambient levels before reaching any marine sanctuary or known geographically limited fishery or shellfishery (228.5(b));
- The size of disposal sites must be minimized in order to be able to monitor for and control any adverse effects (228.5(d));
- Where possible, disposal sites should be beyond the edge of the continental shelf (228.53));
- The location of disposal sites must be considered in relation to breeding, spawning, nursery, feeding or passage areas of living resources in adult or juvenile phases (228.6(a)(2));
- Dispersal and transport from the disposal site must be considered (228.6(a)(6));
- Cumulative effects of other discharges in the area must be considered (228.6(a)(7));
- Interference with recreation, fishing, fish and shellfish culture, areas of special scientific importance and other uses of the ocean must be considered (228.6(a)(8); and
- The potential for development or recruitment of nuisance species must be considered (228.6(a)(10)).

Taken together, the site selection criteria are intended to ensure that EPA's ocean disposal site designations avoid significant impacts to any important fishery or supporting marine habitat to the maximum extent practicable, even before any dredged material is permitted to be disposed there. Based on consideration of the site selection criteria, the location of HOODS was identified as the environmentally preferred alternative for an ocean disposal site in the Humboldt Bay area.

Furthermore, the Ocean Dumping regulations are quite strict about the quality of sediment that may be considered for disposal at an EPA-designated site (see especially 40 CFR Part 227). EPA then actively manages the disposal site to ensure compliance with specific site use conditions (see enclosure), and periodically monitors the site to confirm that it is performing as predicted or whether management adaptations may be needed to minimize impacts.

The benthic habitat at HOODS and throughout the HOODS expansion study area is a gently sloping, essentially featureless sedimentary plain that grades evenly from fine sand in shallower depths to silts in deeper areas. As described in the FEIS and confirmed via the monitoring surveys in 2008 and 2014 [see the 2016 *Humboldt Open Ocean Disposal Site (HOODS) 2008 and 2014 Monitoring*

Synthesis Report], the benthic communities supported by this habitat are virtually identical (i.e. infaunal organism density and richness are not significantly different) at similar depths north to south across the entire study area. Density and richness do each increase going from shallower to deeper areas, as expected based on the substrate type gradation from fine sand to silt. But across the entire study area, there are no unique or distinctive benthic community differences.

The HOODS area was also identified in the FEIS as having the least potential for impacts to important fish and shellfish resources (including smelt, flatfish, and decapods which are all most abundant in waters shallower than 50 m in the area, closer to shore). Other more pelagic and/or mobile species (including fishes, as well as seabirds, marine mammals, and turtles) may be present but the potential for impacts to them was considered to be negligible due to the seasonal nature of disposal activity, the fact that the majority of material disposed was expected to be sand (i.e., having the least potential for lasting turbidity or contaminant effects), the lack of any unique habitat features that would make the disposal site or its vicinity more productive or valuable to these species than the surrounding region, and the slow speed of disposal vessels transiting to and from HOODS.

Having selected a site with the least potential for adverse impacts to begin with, EPA actively manages disposal operations there to further minimize impacts. This management includes: evaluating all disposal projects to ensure that only suitable sediments are considered for ocean disposal; tracking all disposal operations at the site to ensure that disposal activities occur only where and as required; periodically monitoring the disposal site to confirm that only physical effects occur within the site boundaries and that no adverse physical, chemical, or biological effects occur outside the disposal site; and adaptively managing the site should monitoring identify any adverse impacts. EPA also has substantial enforcement authority under MPRSA for any violations that occur.

Post-designation monitoring confirms that HOODS has in fact performed as anticipated in the original FEIS. As documented in the *Synthesis Report*:

1. The physical sand mound has been restricted to the original site boundaries and has not spread outside the site to any appreciable degree. In fact the mound is extremely well-defined (**Figure 3**), and aligned directly with the internal disposal cells⁵ that EPA has required be used, confirming that precise management of individual disposal events is practicable at HOODS.
2. Chemical contamination is not present within the disposal site, indicating that the pre-disposal sediment testing program is effective at limiting ocean disposal to only “suitable” sediment.
3. Similarly, contaminated sediment has not been found outside the disposal site. And
4. No biological effects on the benthic community have occurred outside the site boundaries.

As noted, expansion of HOODS would not increase the need for dredging in Humboldt Bay or the amount of ocean disposal activity that occurs there. It is therefore expected that the outcomes listed above would remain the same after the site is expanded, provided that the site continues to be managed under the same or similar requirements. In fact, expanding the site, especially under Alternative 1 (expansion by a full nautical mile) should result in even less on-site physical impacts (less mounding) while allowing more time for recovery via active bioturbation before subsequent disposal events affect the same location again (see discussion below).

5. Exterior cells at the existing HOODS represent a buffer zone, where generally no disposal is allowed in order to contain mounding within the overall site boundary. Once HOODS is expanded, EPA will update the SMMP and reconsider the need for a no disposal buffer, given the precision with which disposal can be managed.

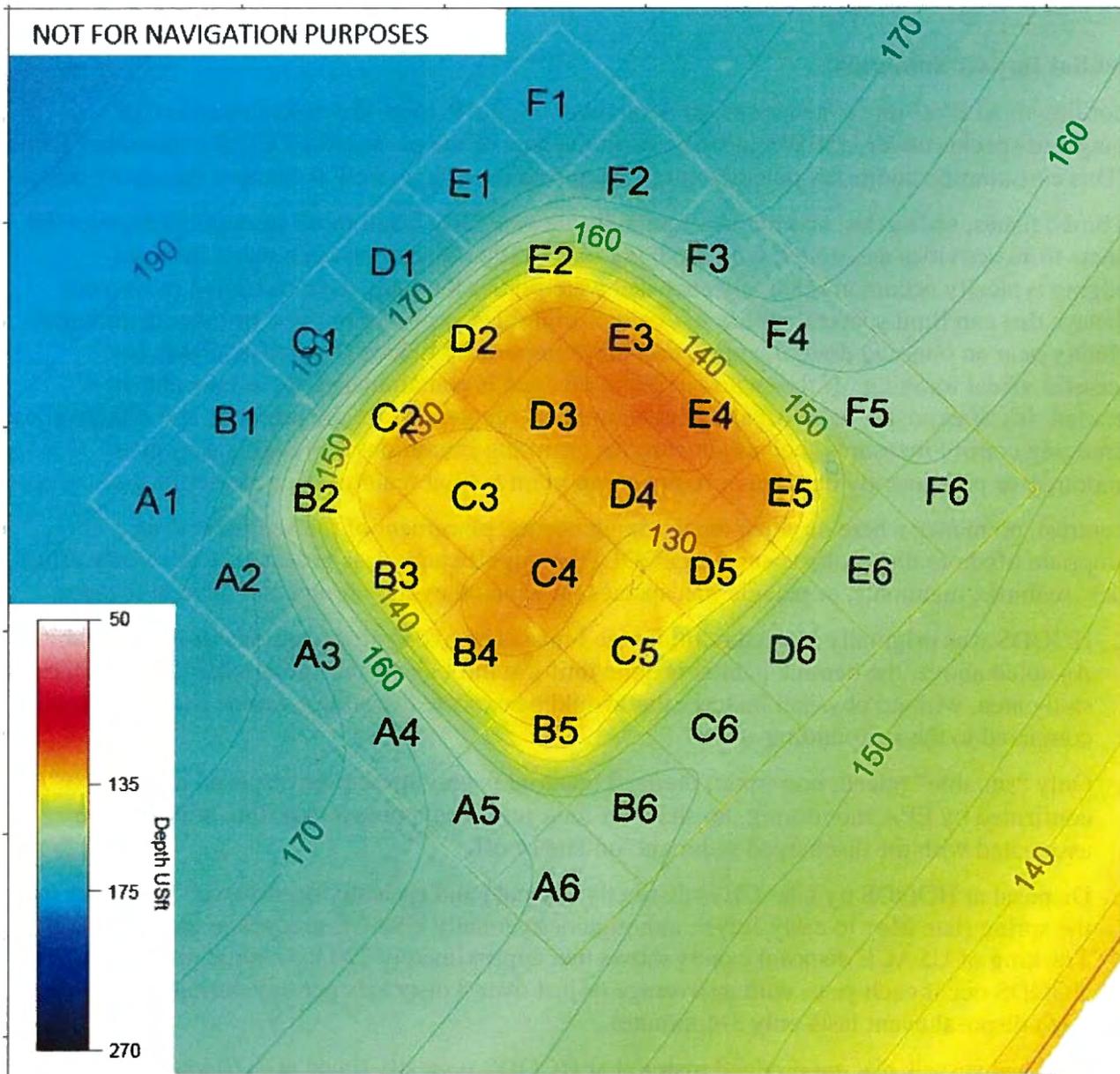


Figure 3: Map of HOODS disposal cells overlain on bathymetry from August 2014. The 20 outermost cells are buffer cells where no direct disposal is allowed, in order to help ensure that mounding remains within the disposal site boundaries. Depths are in feet MLLW. (Reproduced from eTrac, 2014.)

EPA proposes to continue managing the expanded HOODS in the future under site use conditions and BMPs that are at least as stringent as those in place to date (see enclosure). One key issue to be addressed further in the EA will be whether future management should be based on spreading disposals across the larger area to minimize mounding and allow maximum benthic recovery time site-wide, versus continuing to slowly build the edges of the mound in order to minimize the area affected at any time while slowly growing the mound (which represents a different on-site benthic habitat type), versus some hybrid of these two approaches (for example creating smaller, discrete mounds to increase habitat heterogeneity across the larger site). Note that if a Nearshore Sand Placement Site is designated in the future, on-site mounding and its related benthic impact would be significantly reduced at HOODS under either management scenario. Also note that either approach can be changed as needed via future SMMP updates, done with USFWS input.

Potential Impact Summary

According to an IPaC report generated on September 03, 2019, there are eight threatened or endangered species under USFWS jurisdiction in the area of the proposed HOODS expansion (**Table 1**). This consultation addresses potential project impacts to each, as well as to other migratory birds.

Sea birds, fishes, sea turtles, and marine mammals are generally much more susceptible to potential impacts from activities associated with dredging itself, rather than from open water disposal. Dredging typically occurs in relatively enclosed waterbodies that may have restricted movement pathways that can limit species' ability to avoid or minimize exposure to noise or other disturbances. Turbidity near an ongoing dredging operation may temporarily reduce the area available for successful visual foraging. If the sediment being dredged is contaminated, there may also be increased risk of exposure to resuspended contaminants (depending on the presence and effectiveness of dredging control measures such as silt curtains or timing limitations). Dredging may also temporarily or permanently damage or remove important habitat features such as seagrasses.

In contrast, no matter where or when the dredging occurs, placement of the sediment at an appropriate offshore disposal site such as HOODS has significantly less potential to adversely affect turtles, seabirds, mammals, or pelagic fish species on which they may forage, for several reasons:

1. HOODS was originally located to minimize impacts by avoiding any unique or limited habitats. As noted above, the benthic habitat is quite uniform throughout the entire expanded HOODS study area, with no physical features that would be expected to attract marine life differentially compared to the surrounding areas.
 2. Only "suitable" (clean, non-toxic) dredged material is permitted to be disposed at HOODS. As confirmed by EPA monitoring, no short- or long-term contaminant exposure concerns are associated with the discharged sediment, on-site or off.
 3. Disposal at HOODS by USACE is distinctly seasonal and typically occurs over 3-5 weeks in the spring (late May to early July)⁵, although occasionally USACE dredges in the fall as well. Tracking of USACE disposal events shows that approximately 200 individual disposal trips to HOODS occur each year, with an average of just over 8 disposals per day during those times. Each disposal event lasts only 3-4 minutes.
 4. Disposal vessels placing dredged material at HOODS typically travel at 7-10 knots when transiting the approximate 3-4 nmi from the Humboldt Bay entrance. (They then slow to a virtual stop during the 3-4 minute disposal operation.) These speeds are consistent with the vessel speed limitations recommended by NMFS (and imposed in certain areas) to minimize vessel strikes to whales and other marine species.
 5. The vast majority (more than 90%) of sediment placed at HOODS to date has been sand from the Bar and Entrance Channel. Sand not only has the least potential to carry contaminants, it also descends to the bottom and settles very quickly. Turbidity from individual disposals is thus very localized and short-term (minutes), with ample time for water column turbidity to disperse between events in the immediate vicinity of the disposal cell.
-
5. The established ESA-based window for in-water work within Humboldt Bay extends from July 1 to October 15. Non-USACE dredgers are typically limited to this window (but as noted USACE dredging represents the vast majority of the overall dredging that occurs in Humboldt Bay). There is no seasonal restriction on disposal at HOODS in order to accommodate not only projects that work within the window but also those that, through project-specific consultation, receive approval to work at other times.

Listed Species Assessments

According to an IPaC report generated on September 03, 2019, there are now eight threatened or endangered species under USFWS management in the area of the proposed HOODS expansion (Table 1). This consultation addresses potential project impacts to each, as well as to migratory birds. For the reasons listed above, and as further discussed below, EPA has determined that the expansion of the HOODS boundary as proposed:

- will have no effect on Fishers, the northern spotted owl, the western snowy plover, the yellow-billed cuckoo, the tidewater goby or the green sea turtle; and
- may affect but is unlikely to adversely affect the marbled murrelet and the short-tailed albatross.

Table 1. Species status and EPA findings

Species	Status	EPA Determination
Fisher	Threatened	No effect
Northern Spotted Owl	Threatened	No effect
Western Snowy Plover	Threatened	No effect
Yellow-billed Cuckoo	Threatened	No effect
Tidewater Goby	Endangered	No effect
Green Sea Turtle	Threatened	No effect
Marbeled Murrelet	Threatened	May affect, but is not likely to adversely affect
Short-tailed Albatross	Endangered	May affect, but is not likely to adversely affect

Fisher (*Pekania pennanti*) – *Proposed Threatened*

Fishers are forest-dwelling mammals in a family that includes weasels, mink, martens, and otters. They are similar in size to a large house-cat and are light brown to dark blackish-brown with a long body, short legs, and long bushy tails. According to FWS, their range has seen dramatic reduction through trapping, predator and pest control, and alterations of forested habitats brought about by logging, fire, urbanization and farming. The West Coast distinct population segment (DPS) of Fisher is found in the area onshore of HOODS. As the project being analyzed is the expansion of an offshore open ocean disposal site, and not associated with land-based work, it is highly unlikely that Fisher would be impacted. Additionally, there is no critical habitat designated for this species. Considering this information, EPA has concluded that the proposed action will have no effect on Fishers.

Northern Spotted Owl (*Strix occidentalis caurina*) – *Threatened*

The Northern Spotted Owl is a medium-sized, chocolate brown owl with dark eyes. A nocturnal “perch-and-pounce” predator these birds captures their prey (primarily small forest mammals) with its claws. Like most owl species, the spotted owl nests in the tops of trees or in cavities of naturally deformed or diseased trees. These owls primarily mate for life and may live up to 20 years according to the FWS (<https://www.fws.gov/oregonfwo/articles.cfm?id=149489595>). Although the breeding season varies with geographic location and elevation, these owls generally nest from February to June. While they are known to occur in the surrounding areas, it is highly unlikely that these birds would be found near the offshore HOODS site or interact with the dredge vessel. Considering this information, EPA has concluded that the proposed action will have no effect on Northern Spotted Owl.

Western Snowy Plover (*Charadrius nivosus nivosus*) – *Threatened*

The Western Snowy Plover is a small shorebird distinguished from other plovers (Charadriidae sp.) by its small size, pale brown upper parts, dark patches on either side of the upper breast, and dark gray to blackish legs. When an individual bird reaches 1 year or older they are considered to be breeding adults and the average life span is approximately 3 years

(<https://www.fws.gov/wafwo/species/Fact%20sheets/WSPSpeciesProfileFinal.pdf>). Some of these birds will remain in their coastal breeding areas year round, while others migrate south or north for the winter. The Pacific Coast DPS of the Western Snowy Plover are defined as those individuals that nest beside or near tidal waters, and includes all nesting colonies on the mainland coast, peninsulas, offshore islands, adjacent bays and estuaries from southern Washington to southern Baja California, Mexico (<https://www.fws.gov/arcata/es/birds/wsp/plover.html>). Because this species spends the majority of its time on coastal beaches and dunes there is minimal potential for interaction associated with large dredge vessels as they navigate to and from the HOODS site. Additionally, there is critical habitat designated for this species however, the project location is outside of this habitat as it occurs in open ocean waters. Considering this information, EPA has concluded that the proposed action will have no effect on Western Snowy Plover.

Yellow-billed Cuckoo (*Coccyzus americanus*) – *Threatened*

The Yellow-billed Cuckoo is a medium-sized bird with grayish-brown plumage, red primary feathers, and boldly patterned tail feathers. The listed Western DPS is considered separate from the eastern population (https://www.fws.gov/sacramento/es_species/Accounts/Birds/yellow_billed_cuckoo/).

The Yellow-billed Cuckoo use a variety of riparian habitat including cottonwood and willow trees as important foraging habitat for caterpillars and katydids. According to FWS the breeding range of the Yellow-billed Cuckoo formerly included most of North America from southern Canada to the Greater Antilles and northern Mexico. However, in recent years, the species' distribution in the west has contracted. The norther limit of breeding in the coastal states is now in Sacramento Valley. The proposed critical habitat for this species is outside of the project location or surrounding area. Given that the closest known breeding grounds is over 250 miles south of the proposed HOODS expansion it is highly unlikely for the Yellow-billed Cuckoo to occur in the area or being negatively affected by the proposed expansion. Considering this information, EPA has concluded that the proposed action will have no effect on Yellow-billed Cuckoo.

Tidewater Goby (*Eucyclogobius newberryi*) – *Endangered*

The Tidewater Goby is a small, elongate, grey-brown fish with large pectoral fins. The best field mark for tidewater gobies is the transparent, whitish or yellowish triangular area on the upper ¼ to 1/3 of the first, spinous dorsal fin. This fish species is endemic to California, and is found primarily in waters of coastal lagoons, estuaries, and marshes. Tidewater gobies live only in California, and historically ranged from Tillas Slough to Agua Hedionda Lagoon

(<https://www.fws.gov/arcata/es/fish/goby/goby.html>). Reproduction of this species occurs nearly year-round, especially in warmer waters in the southern portion of the species' range. This species is benthic in nature, living at the bottom of shallow bodies of water. Its habitat is characterized by brackish water in shallow lagoons and in lower stream reaches where the water is fairly still but not stagnant (<https://www.epa.gov/sites/production/files/2013-08/documents/tidewater-goby.pdf>). Given that the offshore disposal site is in deep water by Tidewater Goby standards, it is highly unlikely that the transportation of the dredge material or the disposal of dredged material in the proposed expanded site would interact with this species. Considering this information, EPA has concluded that the proposed action will have no effect on Tidewater Goby.

Green Sea Turtle (*Chelonia mydas*) – Threatened

Green turtles are generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. Green turtles have strong nesting site fidelity and often make long distance migrations between feeding grounds and nesting beaches. Hatchlings have been observed to seek refuge and food in Sargassum rafts (<https://www.fws.gov/northflorida/seaturtles/turtle%20factsheets/green-sea-turtle.htm>).

According to NOAA Fisheries, in the eastern North Pacific, green turtles have been sighted from Baja California to southern Alaska, but most commonly occur from San Diego south. In the Pacific, these turtles occur around almost all tropical islands, including the State of Hawaii, and U.S. territories of American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands. While the shoreline areas and marine environment surrounding HOODS are within the habitat needs for the Green Sea Turtle, it is highly unlikely to occur in this area given the information provided by NOAA Fisheries on where they are currently known (<https://www.fisheries.noaa.gov/species/green-turtle>). Considering this information, EPA has concluded the proposed project expansion will have no effect on Green Sea Turtle.

Marbled Murrelet (*Brachyramphus marmoratus*) – Threatened

The Marbled Murrelet is a small Pacific seabird belonging to the family Alcidae that spends most of its life in the marine environment but uses old-growth forests for nesting (distribution shown in **Figure 4**). In California, nests are typically found in coastal redwood and Douglas fir forests. These forests are located close enough to the marine environment for the birds to fly to and from nest sites (https://www.fws.gov/arcata/es/birds/MM/m_murrelet.html). There is critical habitat designated for this species however, the project location is outside of this habitat.

Of greatest concern to the Marbled Murrelet is disturbance during the mating and nesting seasons. The Arcata Fish and Wildlife Office provided guidance regarding the estimation of effects of auditory and visual disturbance to both the Northern Spotted Owl and the Marbled Murrelet found in Northwestern California in July 2006. As the project being analyzed is the expansion of an offshore open ocean disposal site, and not associated with land-based work, it is highly unlikely that Marbled Murrelet nesting sites would be impacted. However, because this species spends the majority of its time foraging in the open ocean, there is a potential for interaction associated with dredge vessels as they navigate to and from the HOODS site (although the level of this disturbance would not increase from what has existed since HOODS was designated in 1995). It is reasonable to assume these birds would leave the immediate area of disposal vessel activity so that no additional direct disturbance or interaction would occur. But for any individuals that do not leave during disposal there may be localized, minor impacts to Marbled Murrelets' foraging success associated with lowered visibility due to sediment plumes during dumping. As described above, turbidity effects at HOODS are quite temporary (minutes) and fully dissipate between disposal events.

Considering this information, EPA has concluded that the proposed expansion may affect, but is not likely to adversely affect, the Marbled Murrelet.

Short-tailed Albatross (*Phoebastria (=Diomedea) albatrus*) – Endangered

The Short-tailed Albatross is the largest and only white-bodied albatross in the north Pacific. It is a colonial, annual breeding species; each breeding cycle lasts about 8 months. It is known to nest on

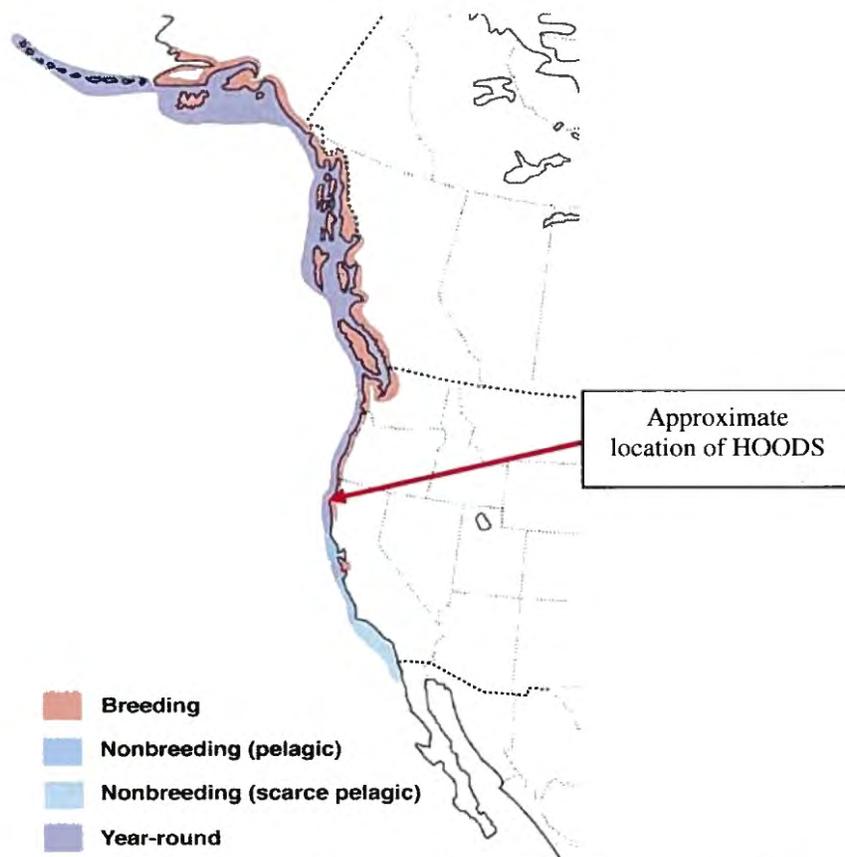


Figure 4. Distribution of Marbled Murrelet – Birds of North America

four islands, with the majority of birds nesting on Torishima, and almost all of the rest on Minami-Kojima in the Senkaku Islands in the East China Sea (distribution shown in **Figure 5**). Their main food source is squid but they are known to follow ships for their discharge plumes associated with fisheries (<https://www.epa.gov/sites/production/files/2017-08/documents/r10-npdes-offshore-seafood-gp-wa-or-wag520000-correspondence-usfws-revised-be-06-19-2017.pdf>). There is critical habitat designated for this species however, the project location is outside of this habitat.

According to the USFWS Short-Tail Albatross Recovery Plan (2008) threats to this species include loss of breeding habitat or adults due to catastrophic events at breeding colonies, commercial fisheries, environmental contaminants, oceanic regime shift and effect on food supply, invasive species, and small population size. This species spends the majority of its time at sea unless breeding or migrating. Individuals may be present near HOODS when foraging along the continental shelf or migrating between preferred foraging habitats. At those times there is a potential for interaction associated with the disposal vessels as they navigate to and from the HOODS site (although the level of this disturbance would not increase from what has existed since HOODS was designated in 1995). It is reasonable to assume these birds would leave the immediate area being disturbed by this vessel activity and no additional direct disturbance or interaction would occur. But for any individuals that do not leave during disposal there may be localized, minor impacts to foraging success associated with lowered visibility due to sediment plumes during dumping. As described above, turbidity effects at HOODS are quite temporary (minutes) and fully dissipate between disposal events.

Considering this information, EPA has concluded that the proposed expansion may affect, but is not likely to adversely affect Short-tailed Albatross.

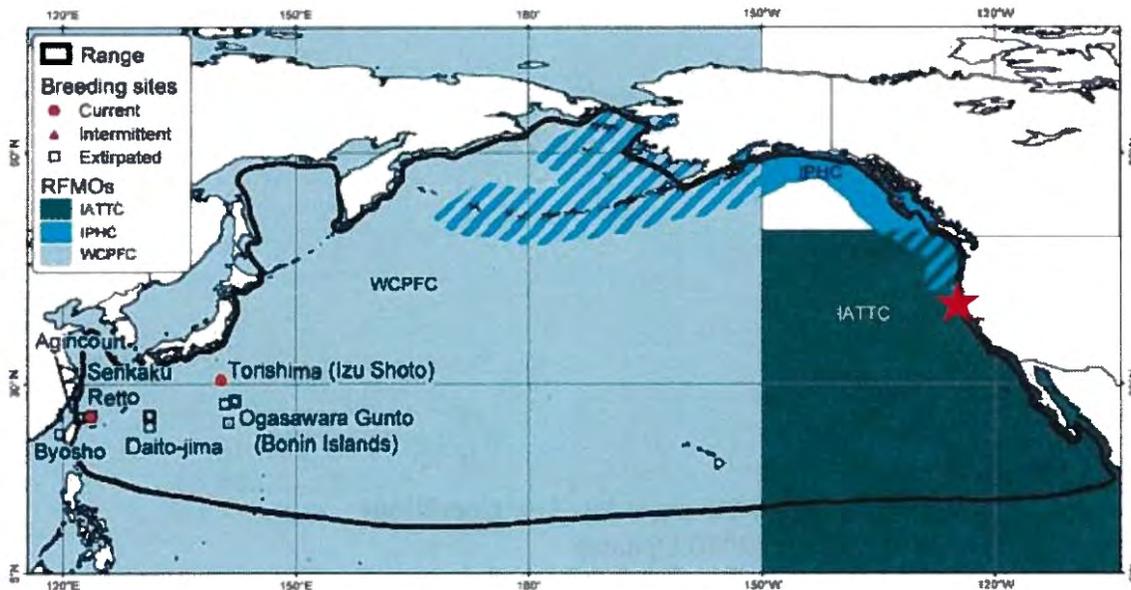


Figure 5. Former and current breeding range and at-sea range of short-tailed albatross – NOAA NMFS. (Red star shows approximate location of HOODS.)

Other Migratory Birds

No migratory birds have been identified within the proposed project site (IPaC). As such, there are no anticipated impacts to any migratory bird species.

CONCLUSIONS

Based on the information and discussion provided above, EPA has determined that expansion of the existing HOODS boundary, under management practices at least as stringent as have been applied to the site to date:

- may affect, but is unlikely to adversely affect Marbled Murrelet and the short-tail albatross; and will have
- no effect on Fishers (West Coast DPS), northern spotted owl, western snowy plover (Pacific Coast DPS), yellow-billed cuckoo (Western DPS), tidewater goby, or green sea turtles.

EPA’s mandatory ocean disposal site use conditions (see enclosure) help to ensure that any impacts of ocean disposal operations at HOODS will continue to be negligible, short term, and highly localized. EPA believes that all practicable avoidance and minimization measures are incorporated into the proposed expansion of HOODS, and that further mitigation measures are not needed.

Also, as noted, additional management options to further reduce the already negligible effects of disposal at HOODS may be available depending on the expansion alternative chosen - i.e., expansion by 1 nautical mile (Alternative 1) or by ½ nautical mile (Alternative 2) - and depending on whether a Nearshore Sand Placement Site (NSPS) is found in the future to be environmentally appropriate for some or all of the entrance channel sand dredged each year. These options will be discussed in more detail in the forthcoming EA and rulemaking.

**ENCLOSURE to EPA Consultation with USFWS
Concerning Expansion of the Humboldt Open Ocean Disposal Site (HOODS)**

EPA's Mandatory Disposal Site Use Conditions
(2020 Update)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

November 2019 Update

**EPA Ocean Disposal Special Conditions for 2020,
for use of the existing
Humboldt Open Ocean Disposal Site (HOODS)**

The following mandatory conditions for disposal operations at the HOODS are provided pursuant to EPA's authority under sections 102 and 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA), and the ocean dumping regulations at 40 CFR Parts 220-228. Please note that these conditions and reporting requirements apply both to USACE (using its owned and operated dredging equipment - e.g., the hopper dredges *Essayons* and *Yaquina* - as well as to any company contracted by USACE to perform dredging and ocean disposal with non-USACE owned and operated equipment such as under USACE's West Coast Hopper Contract) and to other entities operating under a USACE-issued ocean disposal permit.

Definitions:

1. **"Permit"** and **"permittee"** as used here mean USACE ocean dumping permits issued to others under Section 103 of the MPRSA, and to USACE itself and its contracts or other authorizations for USACE dredging projects (see MPRSA section 103(e) and 40 CFR Part 220.2).
2. **"Towing vessel"** is any self-propelled tug or other marine vessel used to transport (tow or push) the "disposal vessel" (see #3 following) for any portion of the transit to G-DODS.
3. **"Disposal vessel"** is any barge, scow, or self-propelled vessel (such as a hopper dredge) that carries dredged material during transit and from which the dredged material is discharged, typically by opening doors in the bottom of the hull or by splitting the hull.
4. **"Transit"** or **"transport"** to the disposal site begins as soon as dredged material loading into the disposal vessel is completed and a towing vessel begins moving the disposal vessel to the disposal site.
5. **"Buffer cells"** are the outermost cells of the overall disposal site, adjacent to the site boundaries. NO DISPOSAL is allowed in the buffer cells unless specified by EPA on a project-by-project basis.
6. **"Closed cells"** are specified (smaller) cells in the interior of the overall disposal site; disposal site that EPA has identified as having mounded to a degree that DISPOSAL IS NO LONGER ALLOWED.
7. **"Allowable Disposal Cells"** are specified (smaller) cells in the interior of the overall disposal site within which the disposal vessel must discharge all of the dredged material.

EPA Conditions for use of the Humboldt Open Ocean Disposal Site (HOODS):

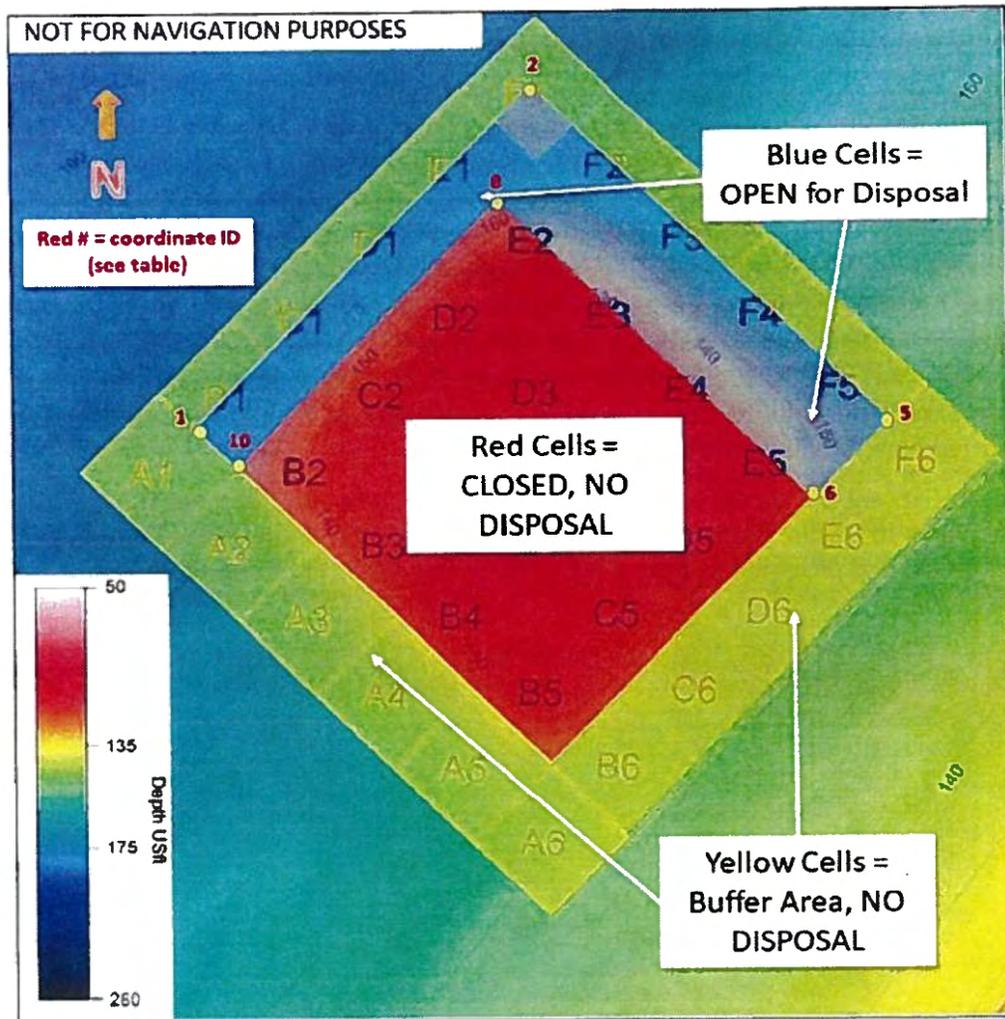
1. All disposal operations at the HOODS shall be conducted in accordance with the most recent update of the Site Management and Monitoring Plan (SMMP) (https://www.epa.gov/sites/production/files/2015-10/documents/r9_hoods_smmp_2006.pdf), as well as these specific conditions. (In the event of any contradictions, these conditions prevail.)
2. Dredged material shall not be leaked or spilled from disposal vessels during transit to the HOODS. Transportation of dredged material to the HOODS shall only be allowed when weather and sea state conditions will not interfere with safe transportation and will not create risk of spillage, leak or other loss of dredged material in transit to the HOODS. No disposal vessel trips shall be initiated when the National Weather Service has issued a gale warning for local waters during the time period necessary to complete dumping operations, or when wave heights are 16 feet or greater.
3. No more than one disposal vessel may be present within the HOODS at any time.
4. **NO DISPOSAL in buffer cells or closed cells:** Disposal in 2020 may only occur in certain interior cells of the HOODS (refer to attached schematic of the HOODS and Condition 5, below). **No disposal shall occur in buffer cells A1, A2, A3, A4, A5, A6, B6, C6, D6, E6, or F6. Similarly, no disposal shall occur in the outer half of buffer cells B1, C1, D1, E1, F2, F3, F4, and F5. Finally, no disposal shall occur in the northern or western portions of buffer cell F1. Fully-closed interior cells include B2 through B5, C2 through C5, and D2 through D5.**
5. **Allowable disposal cells:** To minimize further mounding throughout the HOODS, disposal events for this project shall occur **only** over the northeast and northwest slopes of the existing mound where depths currently exceed 130 feet MLLW. Specifically, as shown on the attached schematic, **all disposal events must occur within the inner (SE) half of cells B1, C1, D1, and E1; the outer (NE) half of cells E2, E3, E4, and E5; the inner (SW) half of cells F2, F3, F4, and F5; and the southernmost quadrant of cell F1.** (Coordinates for the corners of these allowable disposal cells are provided in the attached table.) Dredged material from sequential trips shall not be disposed in the same cell; rather, to the maximum extent practicable consistent with safe vessel operation, disposal events shall progress to all allowable disposal cells before returning to a previously used cell. (Note, this does not mean disposal must happen in order from one cell to the next. Nor does it mean that single disposal events cannot cross a cell's boundary and discharge material in multiple authorized cells.)
6. The disposal vessel must have a disposal tracking system, and the system must be operational before any individual disposal trip to HOODS is initiated. Throughout transit to the disposal site, during disposal, and for at least 10 minutes after disposal is complete, the disposal tracking system must automatically indicate and record the position, speed and draft of the disposal vessel, and the load level within the bin. These data must be generated at a maximum 1-minute interval while en route to the HOODS, and at a maximum 15-second interval while within 1/4 mile of and inside the HOODS boundary. The tracking system must also indicate and record the time and location of the beginning and end of each disposal event (e.g., opening and closing of scow hull or hopper doors).
7. "E-mail alerts" regarding any degree of apparent dumping outside the HOODS boundary, and regarding any apparent substantial leakage/spillage or other loss of material en route to the HOODS must be sent within 24 hours of the permittee or its contractor becoming aware of the

apparent issue, to Brian Ross (ross.brian@epa.gov) and Allan Ota (ota.allan@epa.gov) at EPA Region IX, the San Francisco District USACE project manager, and Mark Delaplaine at the California Coastal Commission (mdelaplaine@coastal.ca.gov). Substantial leakage/spillage or other loss shall be defined as an apparent loss of draft of one foot or more between the time that the disposal vessel begins transport to the HOODS and the time of actual disposal.

8. In addition to any alerts pursuant to Condition 7 above, data recorded from the disposal tracking system must be provided to EPA Region IX, the San Francisco District USACE, and the California Coastal Commission at a minimum on a monthly basis during disposal operations. For each disposal trip the records must include disposal trip number and date, estimated bin volume of material disposed, and a visual display of the disposal vessel position, draft and speed throughout transport and disposal operations, as well as the beginning and ending locations of the disposal event relative to the HOODS boundaries and internal cells. The monthly reports shall be due by the 15th of the following month, and include a cover letter describing any problems complying with these Ocean Disposal Special Conditions, the cause(s) of the problems, any steps taken to rectify the problems, and whether the problems occurred on subsequent disposal trips.
9. A post-disposal bathymetric survey of the HOODS, extending at least 500 feet outside the site boundaries in all directions, shall be conducted within 60 days of completion of disposal operations, and provided to EPA Region IX within 30 days of completion.

ALSO SEE ATTACHED FIGURES AND COORDINATE TABLE SHOWING OPEN DISPOSAL CELLS, UPDATED FOR 2020.

-end-



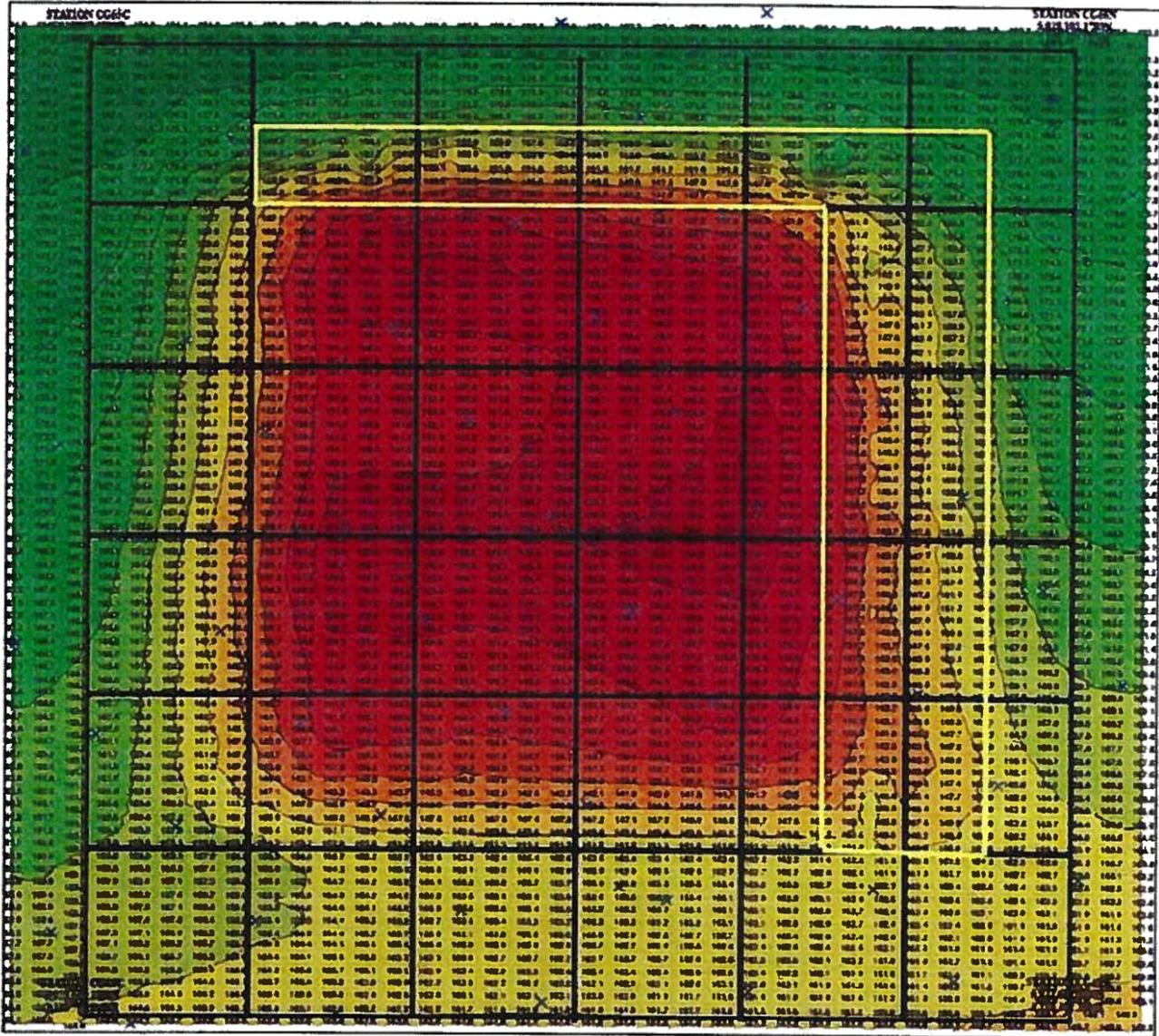
Humboldt Open Ocean Disposal Site (HOODS) map, showing individual disposal cells that are open for vs closed to disposal in 2020. Underlying bathymetry is from 2014 survey.

HOODS 2020 Approved Disposal Cells - offset - see location coordinates listed below:

Location ID	N latitude		W Longitude	
	Degrees	Decimal Minutes	Degrees	Decimal Minutes
1	40	48.365	124	17.990
2	40	48.940	124	17.365
5	40	48.460	124	16.640
6	40	48.340	124	16.775
8	40	48.765	124	17.445
10	40	48.315	124	17.910

*** These locations are identified on the associated map showing approved disposal cells as indicated by coordinate points listed above ***

HOODS Bathymetry from 2-22-2019 survey (2020 open cell offsets outlined in yellow)





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arcata Fish and Wildlife Office

1655 Heindon Road

Arcata, California 95521

Phone: (707) 822-7201 FAX: (707) 822-8411



In Reply Refer To:
AFWO-20B0014-2010089

JAN 28 2019

Ms. Ellen Blake, Assistant Director
Water Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105-3901

Subject: Informal Consultation on Expansion of Humboldt Open Ocean Disposal Site (HOODS), Humboldt County, California

Dear Ms. Blake:

This letter responds to your request, received in our office December 5, 2019, for informal consultation with the U.S. Fish and Wildlife Service (Service) regarding the U.S. Environmental Protection Agency's (EPA) proposed expansion of the Humboldt Open Ocean Disposal Site (HOODS), Humboldt County, California. Based on information sent to the Service by the EPA in 2019, the Service has determined that the proposed HOODS expansion activities may affect, but are not likely to adversely affect, the federally threatened marbled murrelet (*Brachyramphus marmoratus*; hereafter, murrelet) and short-tailed albatross (*Phoebastria albatrus*; hereafter, albatross). This response is prepared in accordance with the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act), and its implementing regulations (50 CFR § 402). This consultation is based on information sent to the Service by the EPA, and information in our files. A complete record for this consultation is on file in this office.

Humboldt Bay is the second largest coastal estuary in California, and is the only harbor between San Francisco Bay and Coos Bay, Oregon, with channels large enough to permit the passage of large ocean-going vessels. Annual dredging of the federal deep draft navigation channels and other permitted shipping facilities serving Humboldt Bay is necessary to maintain safe navigation to and from the bay. An average of about 1 million cubic yards of accumulated sediment is dredged each year for this purpose, the vast majority by the U.S. Army Corps of Engineers (Corps). The HOODS was designated by EPA in 1995, as an at-sea location for the deposition of the dredged material from Humboldt Bay. The current disposal area measures approximately 1 square nautical mile in area, and is located approximately 3 nautical miles west of the Samoa peninsula, which is adjacent to Humboldt Bay. The EPA is currently evaluating proposals to expand the existing HOODS boundary by either ½ nautical mile to the north and west, or by 1 nautical mile to the north and west. The current (and proposed expanded) HOODS areas occur within the marine ranges of both the murrelet and albatross.

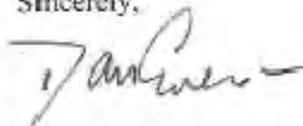
Disposal activities would continue to occur under the terms of a Site Management and Monitoring Plan (SMMP) that sets forth best management practices in the form of enforceable

permit conditions, as well as site monitoring requirements and contingency actions if adverse impacts are identified. Expansion of the HOODS would not increase the need for dredging in Humboldt Bay or the surrounding area, nor is it expected that the amount of disposal activity would increase from what has occurred since the HOODS was designated in 1995. The current SMMP for HOODS was established in 2006. Disposal at the HOODS by the Corps typically occurs over 3-5 weeks in the spring (late May to early July), although occasionally the Corps dredges in the fall as well. Tracking of Corps disposal events shows that approximately 200 individual disposal trips to the HOODS occur each year, with an average of just over 8 disposals per day during those times. Each disposal event lasts approximately 3-4 minutes. Disposal vessels placing dredged material at the HOODS typically travel at 7-10 knots when transiting from the Humboldt Bay entrance to the HOODS, at which time the vessels slow almost to a stop during the 3-4 minute disposal operation.

Based on surveys conducted since 2000 under the auspices of the Northwest Forest Plan Effectiveness Monitoring Program, murrelets are known to occur in the vicinity of the HOODS during the spring and summer months, when dredge disposal operations occur. However, murrelets are sparsely distributed along this section of coast, likely occur in higher densities nearer to shore than 3 nautical miles, and are mobile and forage in various locations along the coast. Albatrosses are known to forage in waters off the Humboldt coast during spring and summer months, but are not local breeders; the species breeds on the Japanese islands of Torishima, Minami-kojima, and on the Northwestern Hawaiian Islands of Midway and Kure. Thus, we expect the numbers of albatrosses occurring in the area of the HOODS during spring and summer to be few.

We concur with the EPA's determination that the proposed expansion of the HOODS is not likely to adversely affect the murrelet and albatross. While disposal activities could temporarily displace foraging murrelets and albatrosses, there is abundant suitable foraging habitat throughout the area and it is likely both species would forage elsewhere during disposal activities. In addition, any minor behavioral changes in flight or foraging activities, in response to disposal vessels, are expected to be temporary. Therefore, further consultation pursuant to section 7(a)(2) of the Act is not required for the proposed expansion of the HOODS. However, if the proposed action changes in a manner that may affect listed species, please contact us immediately to determine whether additional consultation is needed. If you have questions regarding this response, please contact Bill McIver of my staff at (707) 822-7201.

Sincerely,



Dan Everson
Field Supervisor

cc:

ACOE, San Francisco, CA (Attn: Tessa Beach)

Informal ESA, MMPA, and EFH consultations with NMFS

From: Ross, Brian

Sent: Wednesday, November 13, 2019 4:01 PM

To: Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>

Cc: Ziegler, Sam <Ziegler.Sam@epa.gov>; Tessa Beach (Tessa.E.Bernhardt@usace.army.mil) <Tessa.E.Bernhardt@usace.army.mil>

Subject: EPA consultation package for HOODS expansion

Please view in HTML format

Hello Matt,

EPA is pleased to provide the attached combined ESA and EFH consultation package concerning our proposed expansion of the existing Humboldt Open Ocean Disposal Site (HOODS) offshore of Eureka, California. This package includes our cover letter and assessment, plus an enclosure that lists best management practices for disposal at HOODS (these practices are applied as enforceable, mandatory conditions on any entity disposing of suitable sediment at HOODS). The original of this package is being mailed today. Note that this package is supplemented by the detailed Project Description provided to you earlier this year (email dated March 28, 2019).

As discussed in the attachment, EPA believes that the proposed expansion of HOODS will have:

- no effect on EFH;
- no effect on ESA-listed or MMPA-managed cetacean, pinniped, or turtle species; and
- may affect but is unlikely to adversely affect ESA-listed anadromous species.

Please contact me directly if you should have any questions, or desire additional information about our assessment. Thank you in advance for your review, and we look forward to continuing to work closely with your office on this matter.

Brian D. Ross

Dredging & Sediment Management Team

US EPA Region 9 (WTR-2-4)

75 Hawthorne Street

San Francisco, CA 94105

415-972-3475

Note: EPA cannot receive attachments larger than 20 MB.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

NOV 13 2019

Barry Thom, Regional Administrator
c/o Matt Goldsworthy, Fisheries Biologist
National Marine Fisheries Service
1655 Heindon Road
Arcata, California 95521

Subject: ESA and EFH Consultation for Expansion of the Existing Humboldt Open Ocean Disposal Site (HOODS)

Dear Mr. Thom:

The U.S. Environmental Protection Agency (EPA) is preparing an Environmental Assessment (EA) for the proposed expansion of the Humboldt Open Ocean Disposal Site (HOODS) off Humboldt Bay, California. EPA originally designated HOODS via rulemaking in 1995, based on a full EIS. Today, HOODS is nearing capacity and expansion is needed to allow EPA and USACE to continue to manage dredged material disposal in a manner that avoids any significant effect on wave behavior and safe navigation in the vicinity of the Humboldt Harbor entrance channel, while minimizing any adverse impact to marine species, habitats, and human uses of the ocean.

Based on our attached analysis, using the best available scientific and commercial data, EPA has determined that the proposed expansion of the HOODS boundary will have no effect on marine mammals and sea turtles, and may affect, but is not likely to adversely affect anadromous species listed under the Endangered Species Act (ESA). We have also assessed the potential impacts of continued disposal operations at HOODS on Essential Fish Habitat (EFH) managed pursuant to Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, and have similarly determined that there will be no effect on EFH or EFH-managed species. We respectfully request that the United States National Marine Fisheries Service concur with this determination.

Please contact Brian Ross of my staff by e-mail (ross.brian@epa.gov) or by phone (415-972-3475) if there are any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "E. Blake".

Ellen Blake
Assistant Director, Water Division

Enclosure: Current Mandatory Site Use Conditions for HOODS

Cc: Tessa Beach (USACE)

**EPA Analysis for ESA and EFH Consultation:
Proposed Expansion of the Humboldt Open Ocean Disposal Site (HOODS)
November 2019**

Humboldt Harbor and Bay is located in Humboldt County on the coast of Northern California (Figure 1), approximately 225 nautical miles north of San Francisco and approximately 156 nautical miles south of Coos Bay, Oregon. Humboldt Bay is the second largest coastal estuary in California. It is a “harbor of refuge” and is the only harbor between San Francisco and Coos Bay with channels large enough to permit the passage of large ocean-going vessels. Annual dredging of the Federal deep-draft navigation channels and other permitted shipping facilities serving Humboldt Bay is necessary to maintain safe navigation to and from the Bay. An average of about 1 million cubic yards (cy) of accumulated sediment is dredged each year for this purpose, the vast majority by the US Army Corps of Engineers (USACE). The continued availability of an ocean dredged material disposal site (ODMDS) in the vicinity of Humboldt Bay is crucial to the maritime-related economy of the region.

The Humboldt Open Ocean Disposal Site (HOODS, see **Figure 1**) was designated by EPA in 1995. EPA consulted with NMFS as part of the EIS process that supported that rulemaking.¹ At that time the ESA consultation focused on the endangered Sacramento River winter-run chinook salmon and the threatened Steller sea lion (no EFH consultation was conducted). Since 1995 there have been changes to the listed species subject to NMFS management that could potentially occur in the vicinity of HOODS. In addition, HOODS has experienced significant mounding since its designation, creating the possibility of potentially hazardous navigation conditions in the future if the mounding worsens. Today, HOODS has limited capacity to receive future dredge material disposal. While the situation does not constitute an imminent hazard, EPA and USACE have determined that expedited management action is required to prevent adverse conditions from developing. If disposal capacity at HOODS is not expanded soon, the ability to safely maintain Humboldt Bay navigation channels and the commercial and recreational uses they support, is at risk. For all of these reasons EPA believes that completing an EFH consultation and updating the ESA consultation for HOODS is appropriate.

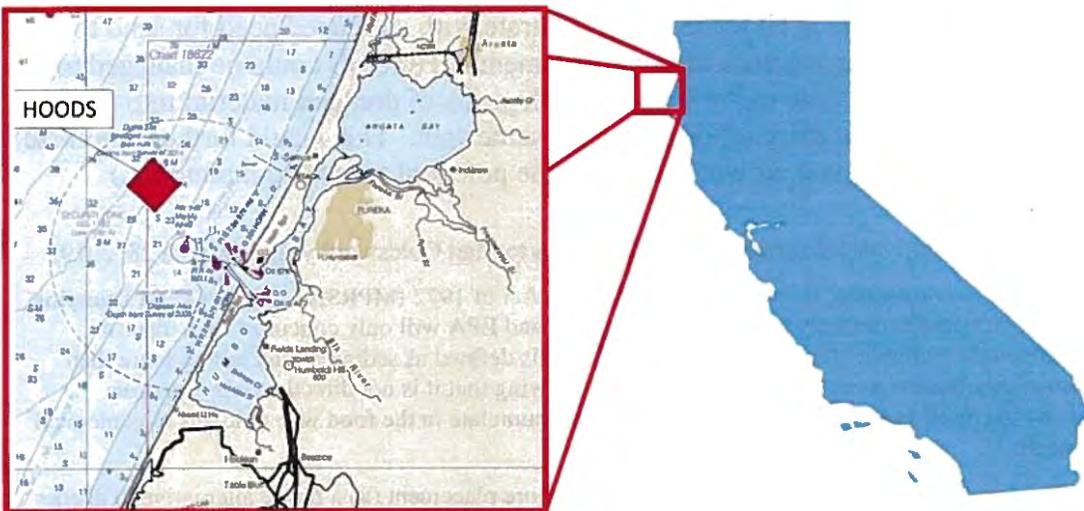


Figure 1. HOODS vicinity map.

¹ The 1995 EIS and other referenced documents supporting the HOODS expansion are available at: <https://www.epa.gov/ocean-dumping/humboldt-open-ocean-disposal-site-hoods-documents>

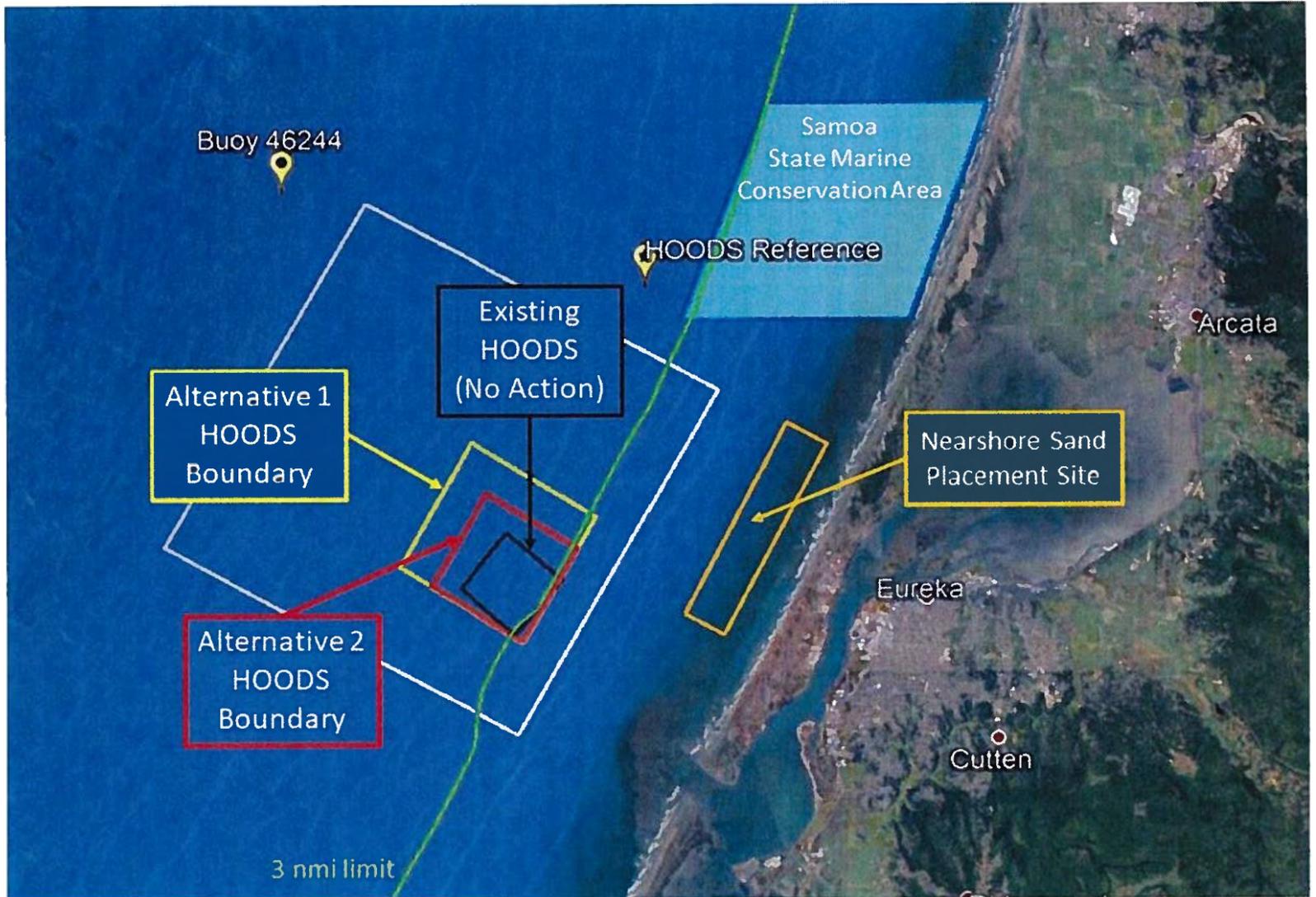
Proposed Project

EPA is evaluating expanding the existing HOODS boundary by either 1/2 nautical mile to the north and west, or by 1 nautical mile to the north and west² (Figure 2 shows the full expansion study area, and the smaller site expansion alternatives within it). Under either alternative, the proposed expansion of HOODS will continue to meet all criteria and factors set forth in the Ocean Dumping regulations published at Parts 228.5 and 228.6 of Title 40 CFR. Use of HOODS would continue to be for disposal of suitable, non-toxic sediment dredged by USACE from the federally authorized navigation channels in Humboldt Bay, as well as for disposal of suitable, non-toxic dredged sediment from other permitted navigation dredging projects in the area.³ Disposal would also continue to occur under the terms of a Site Management and Monitoring Plan (SMMP) that sets forth Best Management Practices (BMPs) in the form of enforceable permit conditions, as well as site monitoring requirements and contingency actions if adverse impacts be identified. Expansion of HOODS would not increase the need for dredging in Humboldt Bay or the surrounding area, nor it is expected that the amount of disposal activity would increase from what has occurred since HOODS was designated in 1995. In fact, if nearshore sand placement occurs in the future, the volume of sand disposed offshore at HOODS should actually decrease.⁴

Management of Disposal at HOODS

The current SMMP for HOODS was established in 2006. However, it has effectively been updated “in practice” several times since then, as EPA has modified the mandatory permit conditions for disposing at the site on a project-by-project basis in order to manage the growing sand mound. The most recent permit conditions, which constitute BMPs for disposal operations (and programmatic Conservation Measures for EFH), are enclosed. EPA intends to publish a fully-updated SMMP to reflect the final site expansion alternative chosen through the EA and rulemaking process. If a nearshore sand placement site is established in the future, EPA will further update the HOODS SMMP to require nearshore sand placement whenever it is practicable and safe to do so, and to make any other changes to disposal practices at HOODS commensurate with a reduced need for sand to be disposed there. (For example, smaller volumes of sand placement at HOODS could be managed to allow infaunal organisms much more time to “re-work” thin deposits of dredged material into the native substrate before a next round of disposal occurs at the same spot. This would further minimize physical substrate changes within the site, as well as reduce the potential for future mounding.)

-
2. See detailed project description provided separately (email from EPA to Matt Goldsworthy dated March 28, 2019).
 3. In accordance with the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA) and the Ocean Dumping Regulations (40 CFR 227), USACE can only permit ocean disposal, and EPA will only concur in such disposal, when the dredged sediment is “suitable” for ocean disposal. Suitable is defined as sediment that has no more than “trace” levels of chemical pollutants as determined by bioassays showing that it is not directly toxic to marine organisms, and that any chemical pollutants present would not bioaccumulate in the food web to levels of ecological or human health concern.
 4. EPA and USACE are also evaluating the potential for shallow nearshore placement (as a future alternative to deeper offshore disposal at HOODS) for some or all of the clean sand dredged from the Humboldt Bay entrance channels. If found to have no significant ancillary impacts, nearshore placement would be beneficial in that it would retain more sand in the local littoral cell to help provide resilience against coastal erosion and sea level rise. The potential nearshore placement site is discussed in the Project Description (provided earlier) and will be further assessed in the EA currently being developed. Though we are not actually proposing a nearshore site as part of the present action, we believe many aspects of the assessment provided here generally apply to nearshore placement as well.



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Figure 2. Proposed Action area, showing the current HOODS site and the two boundary expansion alternatives in relation to Humboldt Bay, the City of Eureka, and the Samoa State Marine Conservation Area. Alternative 1 (proposed action) would expand the existing boundaries by 1 nmi to the north and west, while Alternative 2 would expand the boundaries by $\frac{1}{2}$ nmi. Also shown is the location of the potential Nearshore Sand Placement Site, the HOODS sediment reference testing site, and NOAA buoy 46244.

Lack of Disposal Impacts to Date at HOODS

This discussion addresses how EPA's designation process for ocean dredged material disposal sites avoids many impacts to ESA listed species and to EFH from the beginning, how the dredged material evaluation process further minimizes impacts to listed species and EFH, and how extensive ocean disposal site monitoring has confirmed that no significant impacts to listed species or EFH have occurred over more than 20 years of ocean disposal activity at HOODS.

EPA's ocean disposal site designation process includes criteria (see EFH Discussion below) for avoiding impacts to the aquatic environment and to human uses of the ocean to the maximum extent possible, within an economically feasible transport distance from the area where navigation dredging must occur. HOODS was designated in 1995 in compliance with these criteria. The benthic habitat throughout the HOODS expansion study area is a gently sloping, essentially featureless sedimentary plain that grades evenly from fine sand in shallower depths to silts in deeper areas. As described in the FEIS and confirmed via monitoring surveys in 2008 and 2014 [see the 2016 *Humboldt Open Ocean Disposal Site (HOODS) 2008 and 2014 Monitoring Synthesis Report*], the benthic communities supported by this habitat are virtually identical (i.e. infaunal organism density and richness are not significantly different) at similar depths north to south across the entire study area. Density and richness do each increase going from shallower to deeper areas, as expected based on the substrate type gradation from fine sand to silt. But across the entire study area, there are no unique or distinctive benthic community differences.

This HOODS area was also identified in the FEIS as having the least potential for impacts to important fish and shellfish resources (including smelt, flatfish, and decapods which are all most abundant in waters shallower than 50 m in the area, closer to shore). Other more pelagic and/or mobile species (including salmonids and other fishes, as well as seabirds, marine mammals, and turtles) may also be present but the potential for impacts to them was considered to be negligible due to the seasonal nature of disposal activity, the fact that the majority of material disposed was expected to be sand (i.e., having lowest potential for lasting turbidity or contaminant effects), the lack of any unique habitat features that would make the disposal site's location more attractive, productive, or valuable to these species than the surrounding region, and the slow speed of disposal vessels transiting to and from HOODS.

Having selected a site with the least potential for adverse impacts to begin with, EPA then actively manages disposal operations to further minimize impacts. This management includes: evaluating all disposal projects to ensure that only suitable sediments are considered for ocean disposal; tracking all operations at the site to ensure that disposal activities occur only where and as required; periodically monitoring the disposal site to confirm that only physical effects occur within the site boundaries and that no adverse physical, chemical, or biological effects occur outside the disposal site; and adaptively managing the site should monitoring identify any adverse impacts.

Post-designation monitoring confirms that HOODS has in fact performed as anticipated in the original FEIS. As documented in the Synthesis Report:

1. The physical sand mound has been restricted to within the original site boundaries and has not spread outside the site to any appreciable degree. In fact the mound is extremely well-defined (**Figure 3**), and aligned directly with the internal disposal cells that EPA has required be used, confirming that precise management of individual disposal events is very practicable at HOODS.

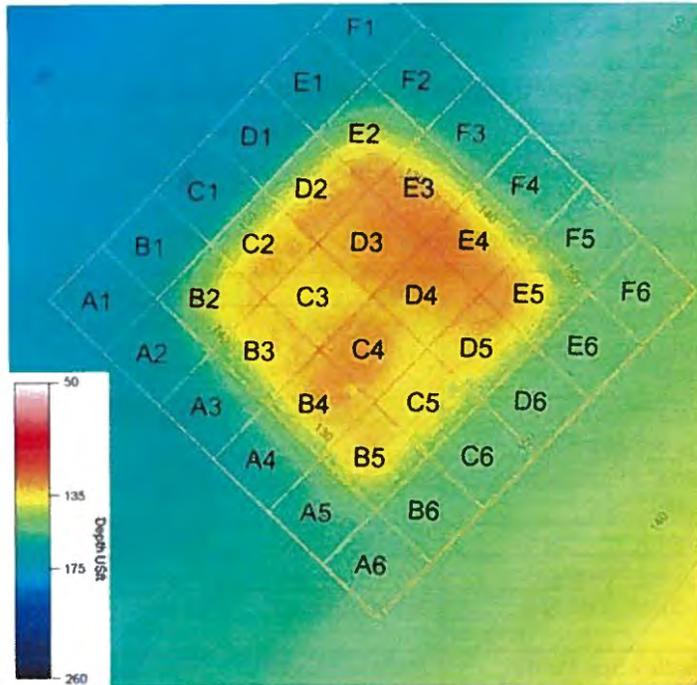


Figure 3: Map of HOODS disposal cells overlain on bathymetry from August 2014. The 20 outermost cells are buffer cells where no direct disposal is allowed, in order to help ensure that mounding remains within the disposal site boundaries. Depths are in feet MLLW. (Reproduced from eTrac, 2014.)

2. Chemical contamination is not present within the disposal site, indicating that the pre-disposal sediment testing program is effective at limiting ocean disposal to only “suitable” sediment.
3. Similarly, contaminated sediment has not been found outside the disposal site, and
4. No biological effects on the benthic community have occurred outside the site boundaries.

As noted, expansion of HOODS would not increase the need for dredging in Humboldt Bay or the amount of ocean disposal activity that occurs there. It is therefore expected that the outcomes listed above would remain the same after the site is expanded, provided that the site continues to be managed under the same or similar requirements. In fact, expanding the site (especially under Alternative 1) should result in even less on-site physical impacts (less mounding) while allowing more time for benthic recovery via active bioturbation before subsequent disposal events affect the same location again (see discussion below).

EPA proposes to continue managing the expanded HOODS in the future under site use conditions and BMPs that are similar to those in place to date (see enclosure). One key issue to be addressed further in the EA will be whether future management should be based on spreading disposals across the larger area to minimize mounding and allow maximum benthic recovery time site-wide, continuing to slowly build the edges of the mound to minimize the area affected at any time but ending up with a (slowly) growing mound that represents a different (on-site) benthic habitat type, or some hybrid of these two approaches (for example creating smaller, discrete mounds to increase habitat heterogeneity across the larger site). Note that if a Nearshore Sand Placement Site is designated in future, on-site mounding could be significantly reduced under any management scenario. Also note that the management scenario can be modified as needed via future SMMP updates, done with NMFS input.

ESA Species Assessments

According to a NMFS Species webtool report generated on March 28, 2017, there are five (5) ESA anadromous fish, three (3) ESA sea turtles, and seven (7) ESA whales, as well as ten (10) MMPA-depleted cetaceans and two (2) MMPA-depleted pinnipeds (Table 1).

Table 1. Species status and EPA Determinations

	Species	Status	EPA Determination
ESA-Anadromous Fish	Southern Oregon Northern California Coast (SONCC) Coho ESU	ESA-threatened	May affect, not likely to adversely affect
	California Coastal (CC) Chinook Salmon ESU	ESA-threatened	May affect, not likely to adversely affect
	Northern California (NC) Steelhead DPS	ESA-threatened	May affect, not likely to adversely affect
	Eulachon	ESA-threatened	May affect, not likely to adversely affect
	sDPS Green Sturgeon	ESA-threatened	May affect, not likely to adversely affect
ESA-Sea Turtles	East Pacific Green Sea Turtle	ESA-threatened	No Effect
	Olive Ridley Sea Turtle	ESA-threatened/ endangered	No Effect
	Leatherback Sea Turtle	ESA-endangered	No Effect
ESA-Whales	Blue Whale	ESA-endangered	No Effect
	Fin Whale	ESA-endangered	No Effect
	Humpback Whale	ESA-endangered	No Effect
	Southern Resident Killer Whale	ESA-endangered	No Effect
	North Pacific Right Whale	ESA-endangered	No Effect
	Sei Whale	ESA-endangered	No Effect
	Sperm Whale	ESA-endangered	No Effect
MMPA-Depleted Cetaceans	Baird's Beaked Whale	MMPA-depleted	No Effect
	Blue Whale	MMPA-depleted, ESA-endangered	No Effect
	Fin Whale	MMPA-depleted, ESA-endangered	No Effect
	Gray Whale (Western North Pacific)	MMPA-depleted, ESA-endangered	No Effect
	Gray Whale (Eastern North Pacific)	MMPA-depleted, ESA-endangered	No Effect
	Humpback Whale	MMPA-depleted, ESA-endangered	No Effect
	Killer Whale (Southern Resident)	MMPA-depleted, ESA-endangered	No Effect
	Killer Whale	MMPA-depleted	No Effect
	North Pacific Right Whale	MMPA-depleted, ESA-endangered	No Effect
	Sei Whale	MMPA-depleted, ESA-endangered	No Effect
Sperm Whale	MMPA-depleted, ESA-endangered	No Effect	
MMPA-Depleted Pinnipeds	Guadalupe Fur Seal	MMPA-depleted, ESA-threatened	No Effect
	Northern Fur Seal	MMPA-depleted	No Effect

Potential Impact Summary

Marine fishes, sea turtles, and marine mammals are generally much more susceptible to potential impacts from activities associated with dredging itself, rather than from open water disposal. Dredging typically occurs in relatively enclosed waterbodies that may have restricted fish movement pathways that can limit fishes' ability to avoid or minimize exposure to noise or turbidity. If the sediment being dredged is contaminated, there may also be increased risk of exposure to resuspended contaminants (depending on the presence and effectiveness of dredging control measures such as silt curtains or timing limitations). Dredging may also temporarily or permanently damage or remove important habitat features such as seagrasses.

In contrast, no matter where or when the dredging occurs, placement of the sediment at an appropriate offshore disposal site such as HOODS has significantly less potential to adversely affect pelagic species (including anadromous fish) for several reasons:

1. HOODS was originally located to minimize impacts by avoiding any unique or limited habitats. As noted above, the benthic habitat is quite uniform throughout the entire expanded HOODS study area, with no physical features that would be expected to attract marine life differentially compared to the surrounding areas.
2. Only "suitable" (clean, non-toxic) dredged material is permitted to be disposed at HOODS. As confirmed by EPA monitoring, no short- or long-term contaminant exposure concerns are associated with the discharged sediment, on-site or off.
3. Disposal at HOODS by USACE is distinctly seasonal and typically occurs over 3-5 weeks in the spring (late May to early July)⁵, although occasionally USACE dredges in the fall as well. Tracking of USACE disposal events shows that approximately 200 individual disposal trips to HOODS occur each year, with an average of just over 8 disposals per day during those times. Each disposal event lasts only 3-4 minutes.
4. Disposal vessels placing dredged material at HOODS typically travel at 7-10 knots when transiting the approximate 3-4 nmi from the Humboldt Bay entrance. (They then slow to a virtual stop during the 3-4 minute disposal operation.) These speeds are already consistent with the vessel speed limitations recommended by NMFS (and imposed in certain areas) to minimize vessel strikes to whales.
5. The vast majority (more than 90%) of sediment placed at HOODS to date has been sand from the Bar and Entrance Channel. Sand not only has the least potential to carry contaminants, it also descends to the bottom and settles very quickly. Turbidity from individual disposals is thus very localized and short-term (minutes), with ample time for all water column turbidity to disperse between events in the immediate vicinity of the disposal cell.

For these reasons, EPA has determined that the expansion of the HOODS boundary as proposed will have no effect on the marine mammals or sea turtles listed in Table 1 and is unlikely to adversely affect anadromous fish species (salmonids, Eulachon, and sturgeon) as discussed below.

-
5. The established ESA-based window for in-water work within Humboldt Bay extends from July 1 to October 15. Non-USACE dredgers are typically limited to this window (but as noted USACE dredging represents the vast majority of the overall dredging that occurs in Humboldt Bay). There is no seasonal restriction on disposal at HOODS in order to accommodate not only projects that work within the window but also those that, through project-specific consultation, receive approval to work at other times.

ESA Anadromous Fish

SONCC Coho ESU (*Oncorhynchus kisutch*)

The Coho salmon is an anadromous fish, living in both salt and freshwater habitats. This fish averages about 8 pounds when fully grown and can reach up to two feet in length and is dark gray in color with a notable red flank. This species of salmon is found throughout Alaska and along the US West Coast. The Coho salmon spawns and rears its young upstream, and migrates down to saltwater to feed, grow, and mature before returning upstream for its single spawn. Threats to this species include blockages impeding access to spawning grounds as well as habitat degradation from dams and culverts. The Southern Oregon & Northern California Coastal (SONCC) evolutionarily significant unit (ESU) is listed as threatened by the Endangered Species Act (ESA)

(<https://www.fisheries.noaa.gov/species/coho-salmon-protected>). Critical habitat and essential fish habitat (EFH) for this species are present near the project site (NMFS webtool). This particular ESU includes salmon originating from coastal rivers and streams between Cape Blanco, OR, and Punta Gorda, CA

(https://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/salmon_and_steelhead_listings/coho/southern_oregon_northern_california_coasts_coho.html). While this species may be found in the open ocean, it spends most of its life within estuarine systems

(https://www.fws.gov/refuge/Humboldt_Bay/wildlife_and_habitat/CohoSalmon.html). **Figure 4** shows the outer boundary limit of the SONCC Coho ESU range. If found within the project area, this species may be temporarily startled by large dredging vessels, but no lasting damage will occur for the reasons discussed above. Given the information presented, this species may be affected but is not likely to be adversely affected by the proposed action.

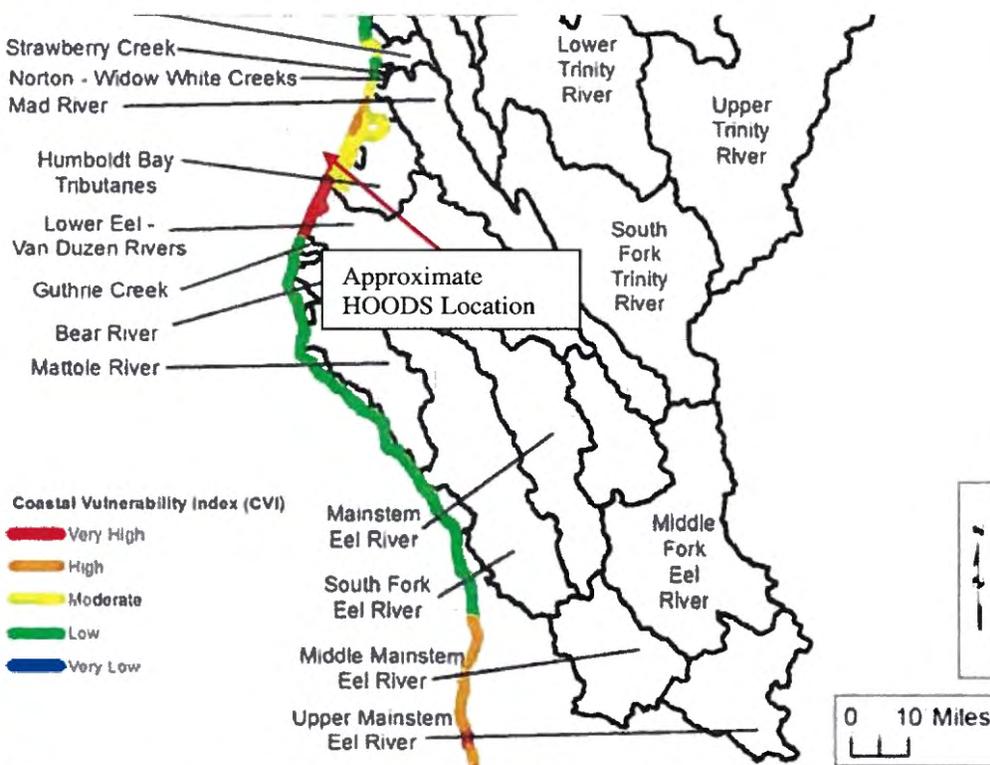


Figure 4. Coastal Vulnerability Index (CVI) and boundaries of Coho salmon populations in the southern portion of the SONCC Coho salmon ESU (<https://repository.library.noaa.gov/view/noaa/15985>).

CC Chinook Salmon ESU (*Oncorhynchus tshawytscha*)

The Chinook salmon are anadromous, hatching upstream in freshwater and migrating downstream to saltwater to feed and grow, and returning upstream to spawn. The Chinook matures between the ages of 2 and 7, but typically returns to spawn around the age of 3 or 4 and will die after spawning. This variety of salmon averages 30 pounds and 3 feet in length when fully grown. Chinook are typically blue-green in color with black spots on the upper half of the body. Older fish feed primarily on other fish, while juveniles feed on insects, amphipods, and other crustaceans. The California Coastal (CC) Chinook ESU is found along California's Pacific coast and is listed as threatened by the ESA (<https://www.fisheries.noaa.gov/species/chinook-salmon>). This ESU includes salmon originating from rivers and streams south of the Klamath River to and including the Russian River (https://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/salmon_and_steelhead_listings/chinook/california_coastal/california_coastal_chinook.html). Critical habitat and essential fish habitat (EFH) for this species are present near the project site (NMFS webtool). The Chinook salmon remain primarily within the estuary but may be found in the open ocean (https://www.fws.gov/fisheries/freshwater-fish-of-america/chinook_salmon.html). **Figure 5** shows the range of coastal California chinook salmon. If found within the project area, this species may be temporarily startled by large dredging vessels, but no lasting damage will occur for the reasons discussed above. Given the information presented, this species may be affected but is not likely to be adversely affected by the proposed action.

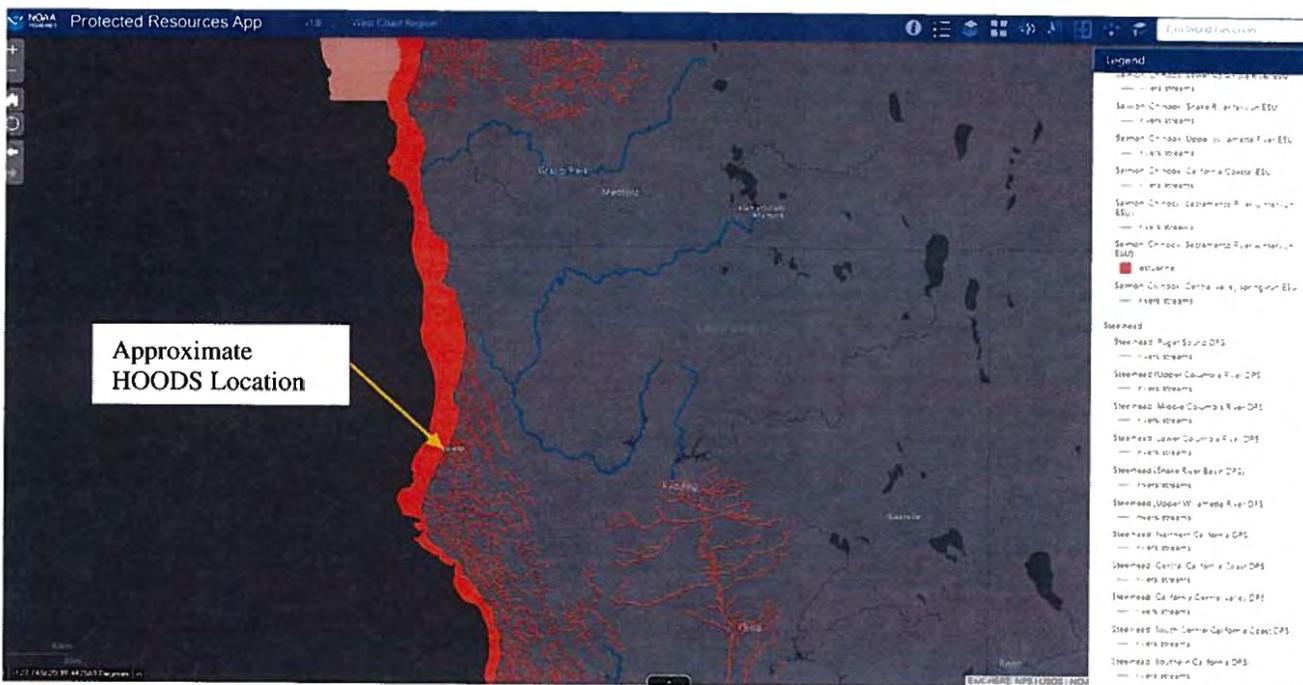


Figure 5. NOAA resources map showing chinook salmon range along the coast of California (<https://www.webapps.nwfsc.noaa.gov/portal/apps/webappviewer/index.html?id=7514c715b8594944a6e468dd25aaacc9>).

Eulachon (*Thaleichthys pacificus*)

The Eulachon is an anadromous fish, found from northern California to southwest Alaska. This is a small species, weighing about 2.5 ounces and growing to 8.5 inches long. Adults spawn between ages 2 and 5 in the lower portions of rivers. Threats to this species include habitat degradation, habitat impediments, fisheries interaction and bycatch, and water pollution. The southern DPS of this species is listed as threatened by the ESA (<https://www.fisheries.noaa.gov/species/eulachon>). Critical habitat for this species is present near the project site (NMFS webtool). This species is found primarily in the lower reaches of streams

(https://www.westcoast.fisheries.noaa.gov/protected_species/eulachon/pacific_eulachon.html)

and spends most of its life at sea (<https://www.fws.gov/yreka/HydroStatusAnadromous.html>). **Figure 7** shows critical habitat for eulachon. As shown, the HOODS does not overlap critical habitat, minimizing chance of this species being found at the project site. If found within the project area, this species may be temporarily startled by large dredging vessels, but no lasting damage will occur for the reasons discussed above. Given the information presented, this species may be affected but is not likely to be adversely affected by the proposed action.

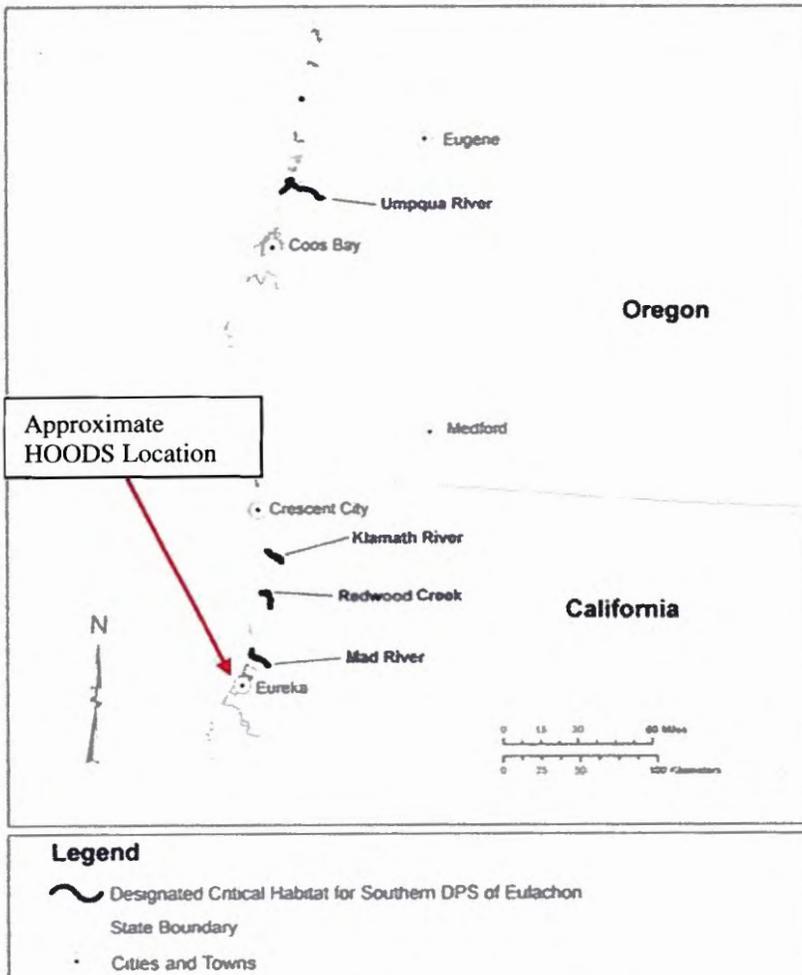


Figure 7. Final critical habitat for the Southern DPS of Eulachon (<https://www.fisheries.noaa.gov/resource/map/eulachon-southern-dps-critical-habitat-map>)

sDPS Green Sturgeon (*Acipenser medirostris*)

The Green sturgeon is an anadromous fish that can live to 60 to 70 years. It can reach up to 350 pounds and 4.5 to 6.5 feet in length. This species is found along the US West Coast and Alaska. This fish spawns and grows upstream, migrates to saltwater to feed, grow, and mature, and migrates back upstream to spawn. Threats to this species include blocked access to spawning grounds and habitat degradation caused by dams and culverts. The southern DPS of this species is listed as threatened by the ESA (<https://www.fisheries.noaa.gov/species/green-sturgeon>). Critical habitat for this species is present near the project site (NMFS webtool). This species spends a few years maturing in the stream, and then spends many years in the open ocean before returning upstream to spawn (<https://www.fws.gov/yreka/HydroStatusAnadromous.html>). **Figure 8** shows the green sturgeon range of the southern DPS. If found within the project area, this species may be temporarily startled by large dredging vessels, but no lasting damage will occur for the reasons discussed above. Given the information presented, this species may be affected but is not likely to be adversely affected by the proposed action.

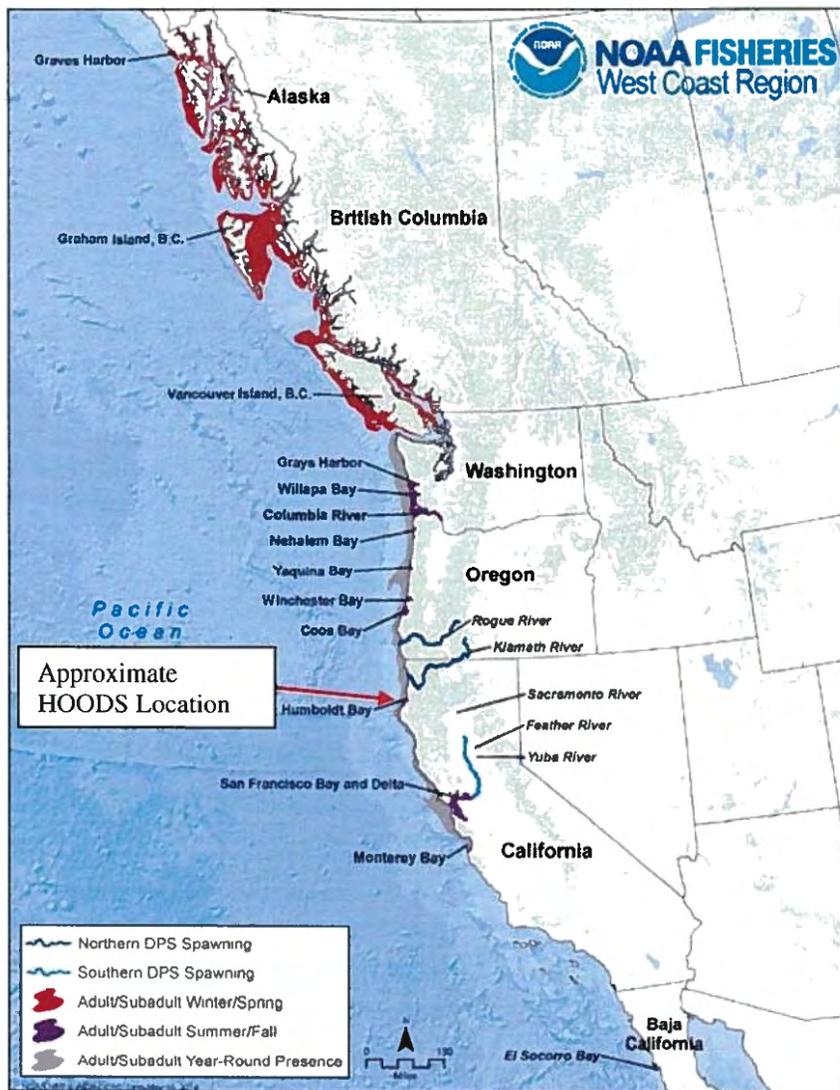


Figure 8. Green sturgeon range along the west coast (https://www.calfish.org/portals/2/Fish/images/GreenSturgeonRangeNew_1200.jpg).

EFH Discussion

Although EFH consultation was not conducted as part of the original designation process for HOODS, the USEPA's site designation process and regulations (promulgated under the MPRSA and NEPA) independently require evaluation of a variety of factors that minimize the potential effects of disposal on EFH. For example, the MPRSA regulations at 40 C.F.R. Part 228.5 – 228.6, include the following disposal site selection criteria, that directly avoid or minimize impacts on EFH and EFH-managed species:

- Disposal activities must avoid existing fisheries and shellfisheries (228.5(a));
- Temporary water quality perturbations from disposal within the site must be reduced to ambient levels before reaching any marine sanctuary or known geographically limited fishery or shellfishery (228.5(b));
- The size of disposal sites must be minimized in order to be able to monitor for and control any adverse effects (228.5(d));
- Where possible, disposal sites should be beyond the edge of the continental shelf (228.53));
- The location of disposal sites must be considered in relation to breeding, spawning, nursery, feeding or passage areas of living resources in adult or juvenile phases (228.6(a)(2));
- Dispersal and transport from the disposal site must be considered (228.6(a)(6));
- Cumulative effects of other discharges in the area must be considered (228.6(a)(7));
- Interference with recreation, fishing, fish and shellfish culture, areas of special scientific importance and other uses of the ocean must be considered (228.6(a)(8); and
- The potential for development or recruitment of nuisance species must be considered (228.6(a)(11)).

Taken together, the site selection criteria are intended to ensure that EPA's ocean disposal site designations avoid significant impacts to any important fishery or supporting marine habitat to the maximum extent practicable, even before any dredged material is permitted to be disposed there. Based on consideration of the site selection criteria, the location of HOODS was identified as the environmentally preferred alternative for an ocean disposal site in the Humboldt Bay area.

Furthermore, as discussed earlier, the Ocean Dumping regulations are quite strict about the quality of sediment that may be considered for disposal at an EPA-designated site. EPA then actively manages the disposal site to ensure compliance with specific site use conditions (see enclosure), and periodically monitors the site to confirm that it is performing as predicted or whether management adaptations may be needed to minimize impacts.

EFH Assessment

The existing HOODS boundaries as well as the expansion alternatives (see Figure 2) overlap with species/habitats managed under the 2016 Pacific Salmon Fisheries Management Plan (FMP), the 2016 Pacific Coast Groundfish FMP, and the 2019 Coastal Pelagic Species FMP. EPA believes there will be no effect on EFH for the reasons discussed below.

Pacific Salmon FMP

The Pacific Salmon Fisheries Management Plan describes potential adverse effects to salmon that may occur as a result of dredging and disposal activities. Consistent with the discussion above,

potential adverse effects are much more likely to be associated with dredging itself than with disposal. Potential effects from disposal are described in the FMP as follows:

“When not used for beneficial purposes, spoils are usually taken to marine disposal sites and this in itself may create adverse conditions within the marine community. When contaminated dredged sediment is dumped in marine waters, toxicity and foodchain transfers can be anticipated, particularly in biologically productive areas. The effects of these changes on salmon are not known.”

Specific to HOODS, the location of the disposal site and the kind of sediment disposed there (mainly clean sand), coupled with EPA’s active management and monitoring program, have assured that no contaminant-related effects have occurred (including via toxicity or foodchain transfers).

The FMP also generally describes potential conservation measures that may reduce impacts of dredging and disposal on EFH. As above, most of the potential conservation measures relate to dredging itself rather than disposal. The potential measures that best address potential disposal effects are reproduced below. EPA agrees that these are appropriate kinds of measures to consider, and we note that they (as well as other specific measures we institute, see enclosure) are already incorporated into our management of disposal operations at HOODS, as follows:

“When reviewing open-water disposal permits for dredged material, identify direct and indirect effects of such projects on EFH. Consider upland disposal options as an alternative. Mitigate all unavoidable adverse effects and monitor mitigation effectiveness.”

The potential effects on EFH of the dredging aspects of projects using HOODS are assessed on a case by case basis during the interagency permit review process. This is appropriate because dredging has the greatest potential to cause adverse effect, and because the potential effect of each dredging project is different based on location, timing, presence of contaminants, proximity to habitats of particular concern (such as eelgrass), etc. However, the ocean disposal aspects are much less variable, and can appropriately be assessed programmatically, because:

- only suitable sediment (shown through extensive testing to be clean and non-toxic) is considered for disposal at HOODS;
- even suitable sediment is only approved when other practicable alternatives do not exist;
- the vast majority (90+%) of material disposed is sand, which settles to the bottom very quickly (minutes) and does not spread outside the disposal site boundaries; and
- water column effects (turbidity) are extremely temporary with no cumulative effect between disposal events.

The only “effect” is the physical sand mound which is constrained to the site boundaries as was predicted in the original site designation FEIS. The presence of the sand mound (which does not extend into waters shallower than 120 feet) does not limit the amount or quality of open water migratory or foraging habitat for salmon (and in fact may somewhat enhance habitat quality by providing the only physical “feature” in this otherwise uniform habitat area. If beneficial reuse of sand (for example at the Near Shore Placement Site) becomes available in the future, the already negligible effects of disposal at HOODS on salmon EFH will be further minimized.

“Test sediments for contaminants prior to dredging and dispose of contaminated sediments at upland facilities.”

This measure is already fully incorporated in both the Ocean Dumping regulations, and in the HOODS SMMP. All projects are evaluated for potential contaminant effects prior to being approved for ocean disposal at HOODS. Unsuitable sediment must be managed in an alternative manner, including at appropriate upland or confined facilities.

“Determine cumulative effects of existing and proposed dredging operations on EFH.”

As noted earlier, expansion of HOODS would not increase the need for dredging in Humboldt Bay or the amount of ocean disposal activity that occurs there. Instead, expanding the site affords the opportunity to manage ongoing disposal at the site in a manner that could further reduce the already negligible impacts of disposal (especially under Alternative 1) while allowing more time for benthic recovery via active bioturbation before subsequent disposal events affect the same location again. Also as noted above, there would be no cumulative water quality impacts due to the extremely rapid settlement of discharged sediment (predominantly sand), compared to the interval between disposal events (averaging 3-4 minutes of discharge once every 2-3 hours during the relatively short 3-5 week dredging season). For these reasons EPA believes there would be no cumulative effects of continued disposal operations at HOODS on EFH for salmon.

“Explore the use of clean dredged material for beneficial use opportunities.”

We are doing just this. In our upcoming EA, EPA and USACE will describe a potential Nearshore Sand Placement Site (NSPS) that would help retain clean sand dredged from the Humboldt Entrance Channel in the shallow littoral system along Samoa beach (see Figure 2). The EA will not propose to designate the NSPS, but provided that further analysis and pilot placements confirm this location to be environmentally appropriate, EPA and USACE could move to formalize the site. At that point EPA would consider placement at the NSPS to be a beneficial reuse alternative to ocean disposal of all the dredged sand at HOODS. However, for the time being, there are extremely limited available reuse options in the Humboldt Bay area, especially for the large quantities of sand needing to be dredged each year to maintain safe navigation into and out of Humboldt Bay.

Pacific Coast Groundfish FMP

The Pacific Coast Groundfish FMP manages 90-plus species over a large and ecologically diverse area. It includes all west coast offshore waters less than 3,500 m deep (**Figure 9**), as well as specified seamounts that are greater than 3,500 m deep and other specific areas identified as habitat areas of particular concern (HAPC, **Figure 10**). Although HOODS and the proposed HOODS expansion alternatives lie within the overall groundfish EFH zone, there are no HAPCs or other ecologically important habitat closure areas that are affected by disposal operations at HOODS. The nearest areas of concern listed in the Groundfish FMP are summarized below:

- The Klamath River Conservation Zone (KRCZ, a long-term bycatch mitigation closure area) is approximately 40 miles to the north.
- The Eel River Canyon (a bottom trawl closure area) is approximately 17 miles to the south.
- The Bottom Trawl Footprint Closure begins at the 700 fathom (4,200 foot) isobath, which in the vicinity of HOODS is anywhere from 25 to 45 miles offshore to the west.
- Estuaries (Humboldt Bay), rocky reefs, canopy kelp, and seagrass areas.

Ongoing disposal at HOODS of suitable dredged material, which is predominantly clean sand, will have no effect on any of these nearby areas of special concern. Dredging within the estuary (Humboldt Bay) could affect seagrasses, but these are assessed (and mitigated as appropriate) during the permit review process; dredging impacts are not included in this programmatic EFH assessment for ocean disposal.

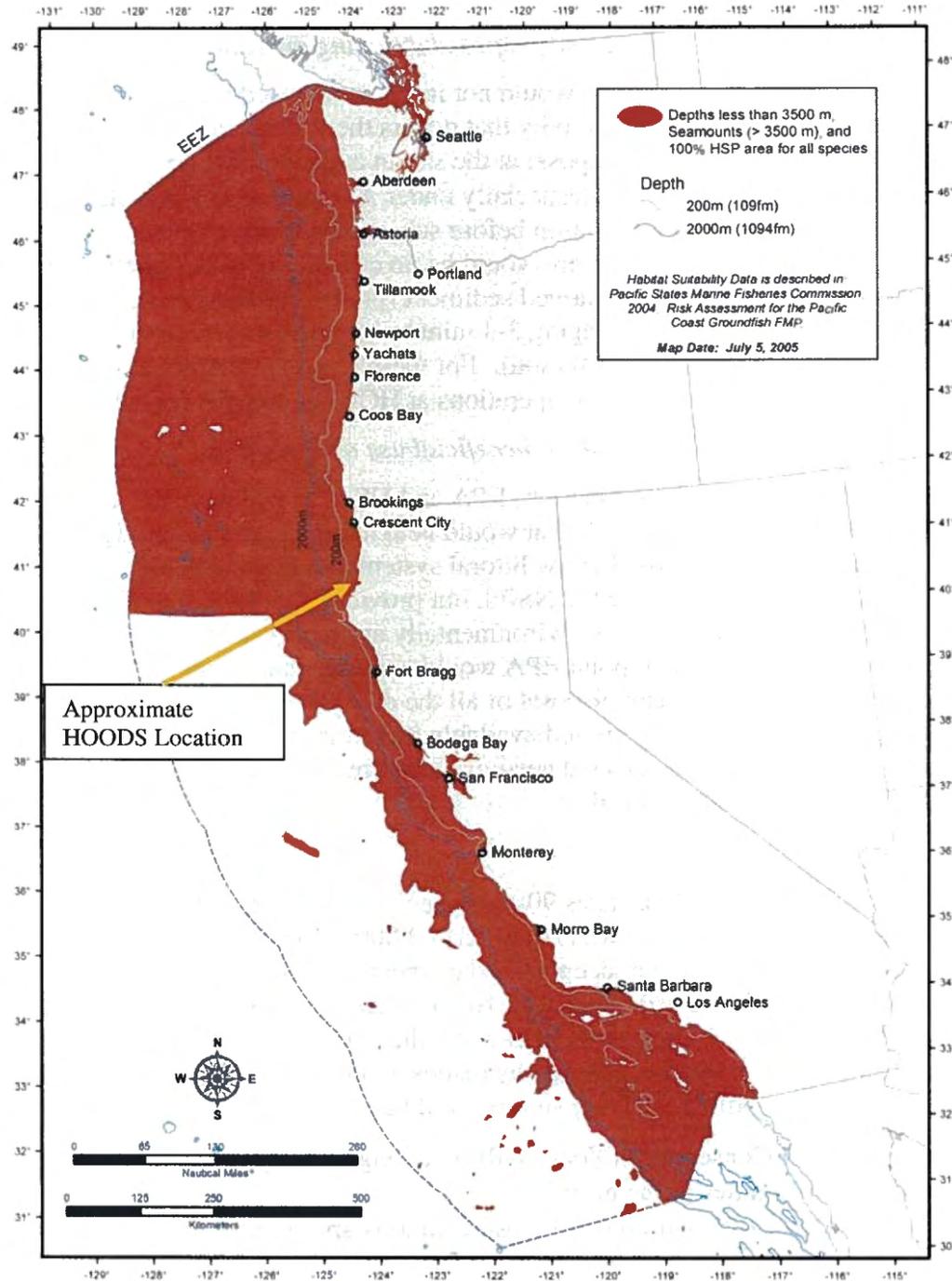


Figure 9. Overall Groundfish EFH zone. (From Pacific Coast Groundfish FMP, August 2016.) (<http://WWW.PCOUNCIL.ORG>)

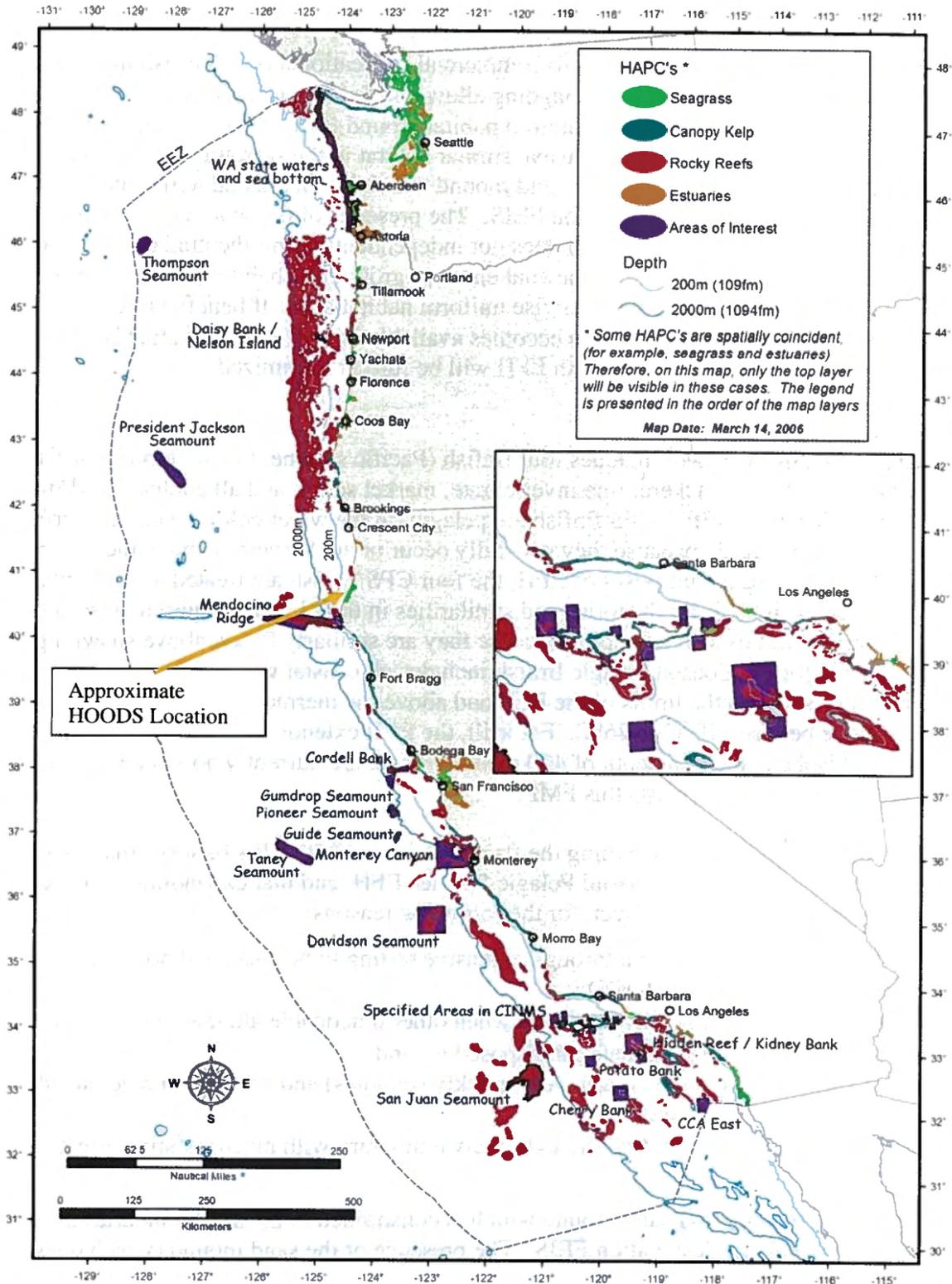


Figure 10. Habitat Areas of Particular Concern (HAPC) in the Groundfish FMP. (From Pacific Coast Groundfish FMP, August 2016.) (<http://WWW.PCOUNCIL.ORG>)

In addition, HOODS itself is not off limits to commercial, recreational or tribal fishing activities, and expansion of HOODS would not result in ongoing allowable fishing operations being curtailed. As discussed earlier, the benthic (and water column) habitat around HOODS is uniform, with no physical characteristics that distinguish it from extensive similar habitat in the surrounding area. The only “effect” on groundfish EFH is the physical sand mound which is constrained to the site boundaries as was predicted in the original site designation FEIS. The presence of the sand mound (which does not extend into waters shallower than 120 feet) does not independently limit the kind of fishing that may be conducted, and the mound in fact may somewhat enhance groundfish habitat quality by providing the only physical benthic “feature” in this otherwise uniform habitat area. If beneficial reuse of sand (for example at the Near Shore Placement Site) becomes available in the future, the already negligible effects of disposal at HOODS on groundfish EFH will be further minimized.

Coastal Pelagic Species FMP

The Coastal Pelagic Species FMP includes four finfish (Pacific sardine, Pacific [chub] mackerel, northern anchovy, and jack mackerel) the invertebrate, market squid, and all euphausiid (krill) species that occur in the West Coast EEZ. CPS finfish are pelagic (in the water column near the surface and not associated with substrate), because they generally occur or are harvested above the thermocline in the upper mixed layer. For the purposes of EFH, the four CPS finfish are treated as a complex because of similarities in their life histories and similarities in their habitat requirements. Market squid are also treated in this same complex because they are similarly fished above spawning aggregations. EFH for the Coastal Pelagic finfish includes all coastal waters of California, Oregon and Washington offshore to the limits of the EEZ and above the thermocline where sea surface temperatures range between 10°C to 26°C. For krill, the EFH extends from the shoreline to the 1,000 fathom (6,000 ft) isobath and to a depth of 400 meters. There are currently no systematic closure areas or seasonal fishing limits under this FMP.

Similar to the discussion above concerning the Pacific Salmon FMP, EPA believes that the existing HOODS site has had no effect on Coastal Pelagic Species EFH, and that expanding the HOODS boundary will continue to have no effect, for the following reasons:

- only suitable sediment (shown through extensive testing to be clean and non-toxic) is considered for disposal at HOODS;
- even suitable sediment is only approved when other practicable alternatives do not exist;
- the vast majority (90+%) of material disposed is sand;
- disposed sand settles to the bottom very quickly (minutes) and does not spread outside the disposal site boundaries; and
- water column effects (turbidity) are extremely temporary with no cumulative effect between disposal events.

The only “effect” is the physical sand mound which is constrained to the site boundaries as was predicted in the original site designation FEIS. The presence of the sand mound (which does not extend into waters shallower than 120 feet) does not limit the amount or quality of open water habitat for coastal pelagics themselves, or for fishers targeting them. If beneficial reuse of sand (for example at the Near Shore Placement Site) becomes available in the future, the already negligible effects of disposal at HOODS on coastal pelagic EFH will be further minimized.

The Samoa SMCA

The California-designated Samoa Offshore State Marine Conservation Area (which prohibits take of marine organisms with certain specified commercial, recreational, and tribal exceptions) is about 5 miles from the center of the existing HOODS, and at its closest point is just over 3 miles from the northernmost boundary of HOODS expansion Alternative 1 (see Figure 2).

The location of the Samoa SMCA was chosen “to meet beach habitat spacing and replication guidelines” together with other SMCAs that protect Beaches, Soft 0-30m and Soft 30-100m habitats up and down the California coast (<http://californiampas.org/mpa-regions/north-coast-region/samoa-smca>). (It was not designated to protect particular distinct habitat features.). This category of SMCA is designed to maintain a moderate to high preliminary level of protection (LOP). Species likely to benefit include species that are directly targeted by fisheries, those which are caught incidental to fishing for the target species (bycatch) and which cannot be returned to the water with a high rate of survival, and those which may be indirectly impacted through ecological changes within the SCMA itself.

Thus, although it was not created under the auspices of EFH, the presence and management of the Samoa SCMA are directly complementary to EFH goals. Ongoing disposal operations will not enter into or affect the Samoa SMCA. In fact, EPA has established a location just outside the southwestern boundary of the Samoa SMCA as the reference sediment station for HOODS (see Figure 2). This is the clean “unaffected” reference sediment against which the acceptability of dredged sediment for proposed ocean disposal at HOODS is tested.

CONCLUSIONS

Based on the information and discussion provided above, EPA has determined that expansion of the exiting HOODS boundary, under management practices at least as stringent as have been applied to the site to date (see enclosure):

- may affect, but is unlikely to adversely affect ESA-listed anadromous fish species (salmonids, Eulachon, and sturgeon);
- will have no effect on ESA-listed or MMPA-managed marine mammals;
- will have no effect on listed sea turtles; and
- will have no effect on EFH.

As noted, additional management options to further reduce the already negligible effects of disposal at HOODS may be available depending on the expansion alternative chosen - i.e., expansion by 1 nautical mile (Alternative 1) or by ½ nautical mile (Alternative 2) – and depending on whether a Nearshore Sand Placement Site (NSPS) is found in the future to be environmentally appropriate for some or all of the entrance channel sand dredged each year. These issues will be discussed in detail in the forthcoming EA.

November 2019

**ENCLOSURE to EPA Consultation with NMFS
Concerning Expansion of the Humboldt Open Ocean Disposal Site (HOODS)**

EPA's Mandatory Disposal Site Use Conditions
(2020 Update)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

November 2019 Update

**EPA Ocean Disposal Special Conditions for 2020,
for use of the existing
Humboldt Open Ocean Disposal Site (HOODS)**

The following mandatory conditions for disposal operations at the HOODS are provided pursuant to EPA's authority under sections 102 and 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA), and the ocean dumping regulations at 40 CFR Parts 220-228. Please note that these conditions and reporting requirements apply both to USACE (using its owned and operated dredging equipment - e.g., the hopper dredges *Essayons* and *Yaquina* - as well as to any company contracted by USACE to perform dredging and ocean disposal with non-USACE owned and operated equipment such as under USACE's West Coast Hopper Contract) and to other entities operating under a USACE-issued ocean disposal permit.

Definitions:

1. **"Permit"** and **"permittee"** as used here mean USACE ocean dumping permits issued to others under Section 103 of the MPRSA, and to USACE itself and its contracts or other authorizations for USACE dredging projects (see MPRSA section 103(e) and 40 CFR Part 220.2).
2. **"Towing vessel"** is any self-propelled tug or other marine vessel used to transport (tow or push) the "disposal vessel" (see #3 following) for any portion of the transit to G-DODS.
3. **"Disposal vessel"** is any barge, scow, or self-propelled vessel (such as a hopper dredge) that carries dredged material during transit and from which the dredged material is discharged, typically by opening doors in the bottom of the hull or by splitting the hull.
4. **"Transit"** or **"transport"** to the disposal site begins as soon as dredged material loading into the disposal vessel is completed and a towing vessel begins moving the disposal vessel to the disposal site.
5. **"Buffer cells"** are the outermost cells of the overall disposal site, adjacent to the site boundaries. NO DISPOSAL is allowed in the buffer cells unless specified by EPA on a project-by-project basis.
6. **"Closed cells"** are specified (smaller) cells in the interior of the overall disposal site; disposal site that EPA has identified as having mounded to a degree that DISPOSAL IS NO LONGER ALLOWED.
7. **"Allowable Disposal Cells"** are specified (smaller) cells in the interior of the overall disposal site within which the disposal vessel must discharge all of the dredged material.

EPA Conditions for use of the Humboldt Open Ocean Disposal Site (HOODS):

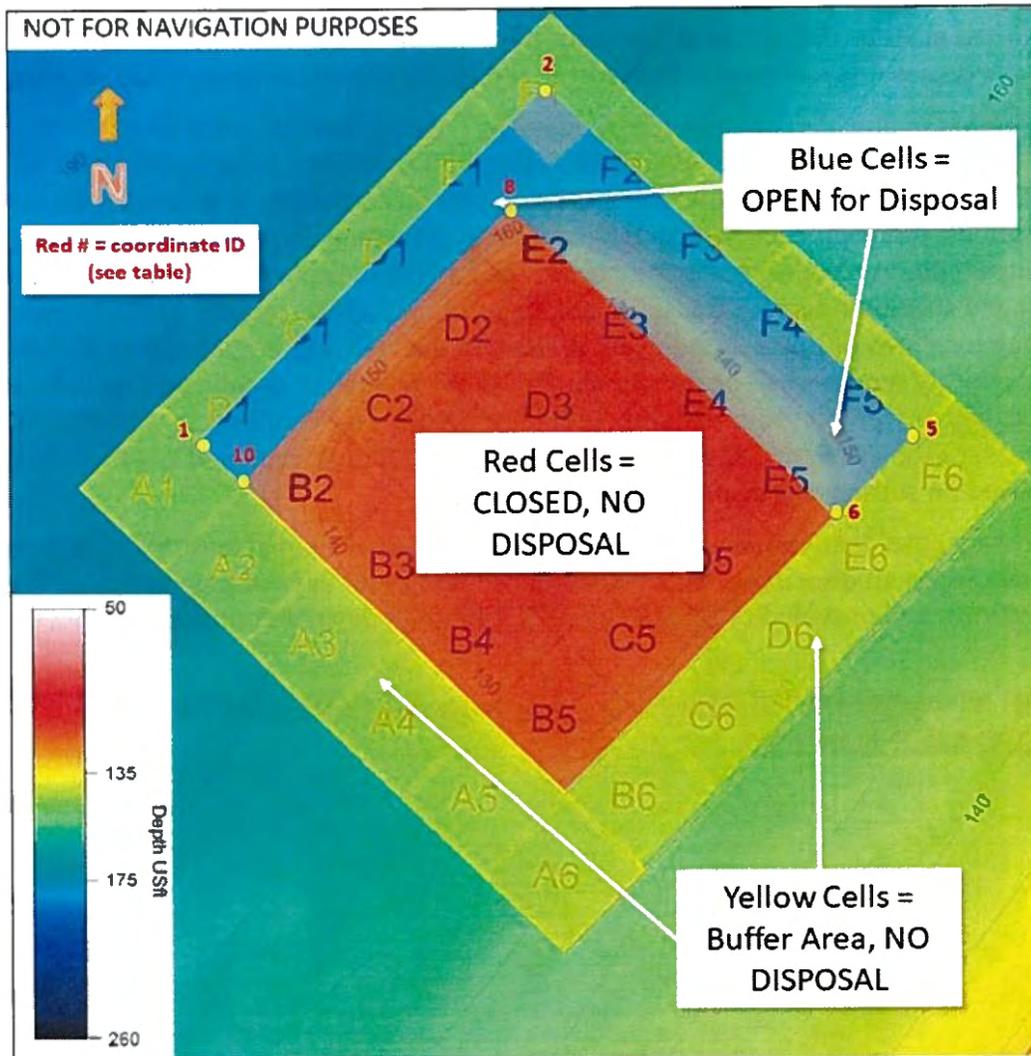
1. All disposal operations at the HOODS shall be conducted in accordance with the most recent update of the Site Management and Monitoring Plan (SMMP) (https://www.epa.gov/sites/production/files/2015-10/documents/r9_hoods_smmp_2006.pdf), as well as these specific conditions. (In the event of any contradictions, these conditions prevail.)
2. Dredged material shall not be leaked or spilled from disposal vessels during transit to the HOODS. Transportation of dredged material to the HOODS shall only be allowed when weather and sea state conditions will not interfere with safe transportation and will not create risk of spillage, leak or other loss of dredged material in transit to the HOODS. No disposal vessel trips shall be initiated when the National Weather Service has issued a gale warning for local waters during the time period necessary to complete dumping operations, or when wave heights are 16 feet or greater.
3. No more than one disposal vessel may be present within the HOODS at any time.
4. **NO DISPOSAL in buffer cells or closed cells:** Disposal in 2020 may only occur in certain interior cells of the HOODS (refer to attached schematic of the HOODS and Condition 5, below). **No disposal shall occur in buffer cells A1, A2, A3, A4, A5, A6, B6, C6, D6, E6, or F6. Similarly, no disposal shall occur in the outer half of buffer cells B1, C1, D1, E1, F2, F3, F4, and F5. Finally, no disposal shall occur in the northern or western portions of buffer cell F1. Fully-closed interior cells include B2 through B5, C2 through C5, and D2 through D5.**
5. **Allowable disposal cells:** To minimize further mounding throughout the HOODS, disposal events for this project shall occur **only** over the northeast and northwest slopes of the existing mound where depths currently exceed 130 feet MLLW. Specifically, as shown on the attached schematic, **all disposal events must occur within the inner (SE) half of cells B1, C1, D1, and E1; the outer (NE) half of cells E2, E3, E4, and E5; the inner (SW) half of cells F2, F3, F4, and F5; and the southernmost quadrant of cell F1.** (Coordinates for the corners of these allowable disposal cells are provided in the attached table.) Dredged material from sequential trips shall not be disposed in the same cell; rather, to the maximum extent practicable consistent with safe vessel operation, disposal events shall progress to all allowable disposal cells before returning to a previously used cell. (Note, this does not mean disposal must happen in order from one cell to the next. Nor does it mean that single disposal events cannot cross a cell's boundary and discharge material in multiple authorized cells.)
6. The disposal vessel must have a disposal tracking system, and the system must be operational before any individual disposal trip to HOODS is initiated. Throughout transit to the disposal site, during disposal, and for at least 10 minutes after disposal is complete, the disposal tracking system must automatically indicate and record the position, speed and draft of the disposal vessel, and the load level within the bin. These data must be generated at a maximum 1-minute interval while en route to the HOODS, and at a maximum 15-second interval while within 1/4 mile of and inside the HOODS boundary. The tracking system must also indicate and record the time and location of the beginning and end of each disposal event (e.g., opening and closing of scow hull or hopper doors).
7. "E-mail alerts" regarding any degree of apparent dumping outside the HOODS boundary, and regarding any apparent substantial leakage/spillage or other loss of material en route to the HOODS must be sent within 24 hours of the permittee or its contractor becoming aware of the

apparent issue, to Brian Ross (ross.brian@epa.gov) and Allan Ota (ota.allan@epa.gov) at EPA Region IX, the San Francisco District USACE project manager, and Mark Delaplaine at the California Coastal Commission (mdelaplaine@coastal.ca.gov). Substantial leakage/spillage or other loss shall be defined as an apparent loss of draft of one foot or more between the time that the disposal vessel begins transport to the HOODS and the time of actual disposal.

8. In addition to any alerts pursuant to Condition 7 above, data recorded from the disposal tracking system must be provided to EPA Region IX, the San Francisco District USACE, and the California Coastal Commission at a minimum on a monthly basis during disposal operations. For each disposal trip the records must include disposal trip number and date, estimated bin volume of material disposed, and a visual display of the disposal vessel position, draft and speed throughout transport and disposal operations, as well as the beginning and ending locations of the disposal event relative to the HOODS boundaries and internal cells. The monthly reports shall be due by the 15th of the following month, and include a cover letter describing any problems complying with these Ocean Disposal Special Conditions, the cause(s) of the problems, any steps taken to rectify the problems, and whether the problems occurred on subsequent disposal trips.
9. A post-disposal bathymetric survey of the HOODS, extending at least 500 feet outside the site boundaries in all directions, shall be conducted within 60 days of completion of disposal operations, and provided to EPA Region IX within 30 days of completion.

ALSO SEE ATTACHED FIGURES AND COORDINATE TABLE SHOWING OPEN DISPOSAL CELLS, UPDATED FOR 2020.

-end-



Humboldt Open Ocean Disposal Site (HOODS) map, showing individual disposal cells that are open for vs closed to disposal in 2020. Underlying bathymetry is from 2014 survey.

HOODS 2020 Approved Disposal Cells - offset - see location coordinates listed below:

Location ID	N latitude		W Longitude	
	Degrees	Decimal Minutes	Degrees	Decimal Minutes
1	40	48.365	124	17.990
2	40	48.940	124	17.365
5	40	48.460	124	16.640
6	40	48.340	124	16.775
8	40	48.765	124	17.445
10	40	48.315	124	17.910

*** These locations are identified on the associated map showing approved disposal cells as indicated by coordinate points listed above ***

On Thu, Dec 12, 2019 at 3:01 PM Ross, Brian <Ross.Brian@epa.gov> wrote:

Hello Matt,

This is in response to your question (below) about the distance turbidity might extend (area temporarily affected) following a disposal event at HOODS. As outlined below we have taken a conservative approach for the present based on consideration of dredged material plume monitoring studies from San Francisco Bay. We believe that the likelihood of significant turbidity-related impacts at HOODS is small enough that such an approach to estimating a worst-case disposal plume should be sufficient. There is a computer model that we could ask USACE to run if you feel it is necessary to generate a more precise, site-specific estimate of dispersion and settling of sediments specific to Humboldt Bay. However that would take a bit of time to arrange, and we don't expect it would change our conclusions.

Turbidity Estimation

HOODS is relatively shallow at 120-200 feet, and at these depths fine sediment dumped at HOODS from a scow or hopper dredge descends as a mass and hits the bottom with some momentum. That momentum then continues laterally near the bottom, carrying fines with it for some distance before the momentum dissipates and the fines can settle. Thus the suspended sediment plume would be substantially larger near the bottom than at the surface. (Also, the point of release from the USACE hopper dredge Essayons starts at about 35 feet below the surface to begin with.) Therefore the worst case for potential turbidity-related impacts would be to organisms occurring near the bottom, rather than those living in surface waters.

Two plume monitoring studies have been successfully conducted in San Francisco Bay under the LTMS program (both used acoustic tracking techniques calibrated with suspended sediment sampling, and both involved dredged material comprised of about 90% fines, which is much finer than typical Humboldt Bay dredged material). The first study monitored a mechanical "knockdown" project in the Redwood City channel (USACE and Weston, 2005, attached). This project disturbed (knocked down and spread) approximately 3,000 cy of sediment (roughly equal to a scow or hopper dredge dump) in high spots on the bottom but did not bring the sediment to the surface and place it in scows. In this regard the results are most relevant to near-bottom plume spreading following disposal at HOODS. This study found suspended sediment concentrations of at least 600 mg/L (~175 NTU) immediately adjacent to the dredging equipment, but that it had dissipated to less than 200 mg/L (~60 NTU) within 5-6 minutes, and to 100 mg/L (~40 NTU) within 7-9 minutes. "Residual" plumes of 50 mg/L (~20 NTU) lasted for 13 minutes or more but could not be distinguished from local background after that. Depending on the tidal current velocities at the time of each survey transect, plume concentrations dissipated to background within 50-200 m on this project.

A second plume monitoring survey was conducted by USACE in the Port of Oakland channel (Clarke et al., 2005, attached). In this case the study monitored dredging with a closed clamshell bucket

repeatedly impacting the bottom. Closed buckets minimize suspended sediment release in the water column and resulted in the greatest plume concentrations near the bottom. So this study is again most relevant to near-bottom plume spreading following disposal at HOODS. In this case, suspended sediment concentrations exceeding 275 mg/L were measured only in immediate proximity to the dredging, and concentrations greater than 100 mg/L were observed only in relatively small pockets of water that dispersed along the bottom. Acoustic signatures generally decayed to background concentrations of 25-50 mg/L (similar to Redwood City project background) within 200-400 m.

Of course, these studies were conducted under conditions that differed from those at HOODS in some important ways. First, water depths were shallower than at HOODS. However, the study results still provide an indication of potential spread and movement of suspended sediments that are near the bottom, where plumes from sediments disposed at HOODS will be of greatest extent as noted above. Second, the sediment in the plume tracking studies was substantially finer than even the siltiest projects typically disposed at HOODS. Therefore the concentration of suspended fines in the monitored plumes, and their subsequent aerial spread before dissipating to background, was likely greater than would occur at HOODS. Third, as noted above only 2-10% of the total volume disposed at HOODS is sediment that includes any appreciable percentage of fines, and these projects are still somewhat sandy, with 30-70% fines. So considering potential turbidity as if it came only from fines disposal would substantially over-estimate the actual turbidity climate associated with HOODS disposal operations. Fourth, the surface current velocities at HOODS (which can vary seasonally from 0.5 to 2 knots, or 25 to 100 cm/sec) are often greater than the weak currents (roughly 0.5 knot, 25 cm/sec) encountered during the tracking studies. However, velocities near the bottom at HOODS are actually similarly weak (0.3-0.4 knots or 15-20 cm/sec), so the extent of spreading in the monitoring studies is considered reasonably representative of what would occur at HOODS. Finally, the Oakland monitoring study tracked plumes generated by dredging with a clamshell bucket that repeatedly impacted the bottom, as opposed to coming from a single dump. However, that study documented the distance and time over which dislodged sediments remained suspended, and so is considered relevant.

Based on these considerations, we believe that the plume tracking results discussed can be used to make a conservative estimate of the potential extent of near-bottom plumes that may occur at HOODS. Specifically, we estimate that a worst-case disposal event at HOODS would result in a plume that is minimal at the surface, but that would spread upon encountering the seafloor to affect up to 400 m (1,300 feet) downcurrent and up to 200 m (650 feet) perpendicular to the current in each direction (ie, a circular area of 1,327,000 sq ft). This area is equivalent to 1.3 of the 36 existing HOODS disposal cells or 3.7% of the overall area of the existing site.

Conclusion

Even though some fines may travel beyond the site boundary, turbidity should return to background levels well within the site boundary for internal dump locations, or near it for dumps occurring closer to the site boundary. (Recall that, as currently managed, HOODS includes a “no dump” buffer around the edges of the site. The buffer cells are 500-1000 feet wide, so even a worst-case plume from a

disposal event close to the site boundary would extend only up to 300-800 feet outside of the site before dissipating to background.) Individual worst-case disposal events would result in some increased near-bottom turbidity over at most 3.7 % of the existing site (equivalent to 1.3 of the 36 existing disposal cells) or, if site expansion Alternative 1 is selected (expansion by an additional nautical mile to the west and north), slightly less than 1% of the expanded site. Note that while turbidity within this area could be elevated above background, it would be substantially elevated only near the center of the area and would be only slightly above background over most of the area. In addition, as discussed elsewhere 90% or more of all disposals at HOODS consist of clean entrance channel sand that includes very little in the way of fines. Thus the vast majority of disposal events will have turbidity effects that are much smaller than the conservative estimate presented here. Finally, since (based on the monitoring studies) the elevated turbidity from worst-case disposals would last for only approximately 15 minutes before dissipating to background concentrations, and since disposal events at HOODS generally occur no more frequently than every 2 hours, there would be no cumulative turbidity impact at the site over time.

Please let me know at your convenience whether this conservative approach to estimating potential turbidity at HOODS is sufficient for you to continue with your analysis, or if you have any additional questions. We appreciate working closely with your office on this matter!

Brian D. Ross
Dredging & Sediment Management Team
US EPA Region 9 (WTR-2-4)
75 Hawthorne Street
San Francisco, CA 94105
415-972-3475

Note: EPA cannot receive attachments larger than 20 MB.

From: Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>
Sent: Monday, December 2, 2019 9:14 AM
To: Ross, Brian <Ross.Brian@epa.gov>; Jeffrey Jahn <jeffrey.jahn@noaa.gov>
Cc: Ziegler, Sam <Ziegler.Sam@epa.gov>; Tessa Beach (<Tessa.E.Bernhardt@usace.army.mil>
<Tessa.E.Bernhardt@usace.army.mil>
Subject: Re: EPA consultation package for HOODS expansion

Good Morning Brian: My apologies for the delay. I have reviewed the request and found one item in need of clarification before we can proceed (email response clarifying is fine): please confirm the estimated distance that suspended sediments (turbidity) might travel after a disposal event to define the area where effects of the project are expected to occur. I recognize all effects are expected to be confined to the (new) HOODS footprint, but we need to evaluate the spatial extent of turbidity for each disposal event (which is a much smaller area than the HOODS footprint). Upon clarification, we will be able to complete consultation rather quickly.

Thanks, Matt



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1655 Heindon Road
Arcata, California 95521-4573

December 20, 2019

Refer to NMFS No: WCRO-2019-03626

Ms. Ellen Blake
Assistant Director, Water Division
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Expansion of the Existing Humboldt Open Ocean Disposal Site (HOODS), located offshore of Eureka, Humboldt County, California

Dear Ms. Blake:

On November 18, 2019, NOAA's National Marine Fisheries Service (NMFS) received your request for written concurrence that the United States Environmental Protection Agency (USEPA) proposed expansion of the existing Humboldt Open Ocean Disposal Site (HOODS) pursuant to the Marine Protection, Research and Sanctuaries Act (U.S.C. 1401 et seq., 1972) is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). A complete record of this consultation is on file at the Northern California Office in Arcata, California.

Proposed Action and Action Area

Annual dredging of the federal navigation channels and other permitted shipping facilities serving Humboldt Bay and other nearby areas (including Crescent City Harbor) is necessary to maintain safe navigation to and from the Bay. An average of about 1 million cubic yards (cy) of accumulated



sediment is dredged each year, the vast majority by the United States Army Corps of Engineers (Corps). The continued availability of an ocean disposal site in the vicinity of Humboldt Bay is crucial to the maritime-related economy of the region. HOODS is nearing capacity and expansion is needed to allow USEPA and other stakeholders to continue to manage dredged material disposal in a manner that avoids any significant effect on wave behavior and safe navigation in the vicinity of the Humboldt Harbor entrance channel, while minimizing any adverse impact to marine species, habitats, and human uses of the ocean.

USEPA is evaluating expanding the existing HOODS boundary by either 1/2 nautical mile to the north and west, or by one nautical mile to the north and west. Use of HOODS would continue to be for disposal of suitable, non-toxic sediment dredged by the Corps from the federally authorized navigation channels in Humboldt Bay, as well as for disposal of suitable, non-toxic dredged sediment from other permitted navigation dredging projects in the area. Disposal would also continue to occur under the terms of a Site Management and Monitoring Plan (SMMP) that sets forth Best Management Practices (BMPs) in the form of enforceable permit conditions, as well as site monitoring requirements and contingency actions if adverse impacts are identified. Expansion of HOODS would not increase the need for dredging in Humboldt Bay or the surrounding area, nor is it expected that the amount of disposal activity would increase from what has occurred since HOODS was designated in 1995.

The USEPA proposes to require the following conditions on applicants when disposing at HOODS:

- All disposal operations at the HOODS shall be conducted in accordance with the most recent update of the SMMP
- Dredged material shall not be leaked or spilled from disposal vessels during transit to the HOODS. Transportation of dredged material to the HOODS shall only be allowed when weather and sea state conditions will not interfere with safe transportation and will not create risk of spillage, leak or other loss of dredged material in transit to the HOODS. No disposal vessel trips shall be initiated when the National Weather Service has issued a gale warning for local waters during the time period necessary to complete dumping operations, or when wave heights are 16 feet or greater
- No more than one disposal vessel may be present within the HOODS at any time
- Disposal is limited to only those cells deemed open by USEPA, which are limited to only the northeast and northwest slopes where depths are less than 130 feet
- The disposal vessel must have a disposal tracking system, and the system must be operational before any individual disposal trip to HOODS is initiated
- A post-disposal bathymetric survey of the HOODS, extending at least 500 feet outside the site boundaries in all directions, shall be conducted within 60 days of completion of disposal operations

The action area includes the existing footprint of HOODS and includes the largest (one mile) expansion footprint being proposed by the USEPA, as well as 800 feet beyond the proposed HOODS extension boundaries where turbidity is expected to occur during disposal events. The turbidity is expected to be minimal along the surface of the water, but spread out furthest along the seafloor.

Action Agency's Effects Determination

Available information indicates the following listed species (Evolutionarily Significant Units (ESU) or Distinct Population Segments [DPS]) under the jurisdiction of NMFS may be affected by the proposed project:

Southern Oregon/Northern California Coast (SONCC) coho salmon ESU

(Oncorhynchus kisutch)

Threatened (70 FR 37160; June 28, 2005)

California Coastal (CC) Chinook salmon ESU

(O. tshawytscha)

Threatened (70 FR 37160; June 28, 2005)

Northern California (NC) steelhead DPS

(O. mykiss)

Threatened (71 FR 834; January 5, 2006)

North American green sturgeon Southern DPS

(Acipenser medirostris)

Threatened (71 FR 17757; April 7, 2006)

Critical habitat (74 FR 52300; October 9, 2009);

Pacific eulachon Southern DPS

(Thaleichthys pacificus)

Threatened (75 FR 13012; March 18, 2010)

The USEPA determined the Project may affect, but is not likely to adversely affect SONCC coho salmon, CC Chinook salmon, NC steelhead, Southern DPS (SDPS) green sturgeon, and SDPS Pacific eulachon individuals. The USEPA rationale for their determinations include the effects being temporary and minor in nature, with the expansion of HOODS being primarily a ministerial action and disposal events which produce minor turbidity that returns to baseline conditions within 15 minutes. The action area overlaps with the designated critical habitat for SDPS green sturgeon, and USEPA determined the Project may affect, but is not likely to adversely affect SDPS green sturgeon critical habitat. The USEPA determined there would be no effect to the critical habitat of SONCC coho salmon, CC Chinook salmon, NC steelhead, or SDPS Pacific eulachon because designated critical habitat for those species is not located near the action area. The USEPA also determined the Project will have no effect on EFH or species managed under the Pacific Coast Groundfish Fishery Management Plan (FMP), Pacific Salmon FMP, and Coastal Pelagic Species FMP.

Life History of Listed Species and Use of HOODS

SONCC Coho Salmon Life History and Use of HOODS

Coho salmon have a generally simple 3-year life history. The adults typically migrate from the ocean towards their freshwater spawning grounds in late summer and fall, and spawn by mid-winter. Adults die after spawning. The eggs are buried in nests, called redds, in the rivers and streams where the adults spawn. The eggs incubate in the gravel until fish hatch and emerge from the gravel the following spring as fry. These 0+ age fish typically rear in freshwater for about 15 months before migrating to the ocean. The juveniles go through a physiological change during the transition from fresh to salt water called smoltification. Coho salmon typically rear in the ocean for two growing

seasons, returning to their natal streams as 3-year old fish to renew the cycle. Both juvenile and adult SONCC coho salmon are expected to be present at HOODS during the marine phases of their life.

CC Chinook Salmon Life History and Use of HOODS

The CC Chinook salmon ESU are typically fall spawners, entering their natal streams in the early fall. The adults tend to spawn in the mainstem or larger tributaries of rivers. As with the other anadromous salmon, the eggs are deposited in redds for incubation. When the 0+ age fish emerge from the gravel in the spring, they typically migrate to saltwater shortly after emergence. Therefore, Chinook salmon typically enter the estuary as smaller fish compared to coho salmon. Chinook salmon are typically present in the stream-estuary ecotone from early May to early September, with peak abundance in June/July (Wallace and Allen 2007). Similar to coho salmon, prey resources during out-migration is critical to Chinook salmon survival as they grow and move out to the open ocean. A study by MacFarlane (2010) indicated that juvenile Chinook salmon require less prey in the estuary, equivalent to one northern anchovy (*Engraulis mordax*) per day, compared to a range of one to four anchovies needed per day in the ocean. Both juvenile and adult CC Chinook salmon are expected to be present at HOODS during the marine phases of their life. Juvenile CC Chinook are expected to be closely associated with the bottom, while adults may be present anywhere in the water column.

NC Steelhead Life History and Use of HOODS

Steelhead exhibit the most complex suite of life history strategies of any salmonid species. They have both anadromous and resident freshwater life histories that can be expressed by individuals in the same watershed. The anadromous fish generally return to freshwater to spawn as 4 or 5 year old adults. Unlike other Pacific salmon, steelhead can survive spawning and return to the ocean only to return to spawn in a future year. It is rare for steelhead to survive more than two spawning cycles. Steelhead typically spawn between December and May. Like other Pacific salmon, the steelhead female deposits her eggs in a redd for incubation. The 0+ age fish emerge from the gravel to begin their freshwater life stage and can rear in their natal stream for 1 to 4 years before migrating to the ocean.

Steelhead have a similar life history as noted above for coho salmon, in the sense that they rear in freshwater for an extended period before migrating to saltwater. As such, they enter the estuary as larger fish (mean size of about 170 to 180 mm or 6.5 to 7.0 inches) and are, therefore, more oriented to deeper water channels in contrast to Chinook salmon that typically enter the estuary as 0+ fish. The CDFW data indicate that steelhead smolts generally migrate downstream toward the estuary between March 1 and July 1 each year, although they have been observed as late as September (Ricker et al. 2014). The peak of the outmigration timing varies from year to year within this range, and generally falls between early April and mid-May. CDFW estimated 80% to 90% of steelhead trout smolts originated from the stream-estuary ecotone of Freshwater Creek in 2007 and 2008 (Wallace et al. 2015). Both juvenile and adult NC steelhead are expected to be briefly present at HOODS during the marine phases of their life.

Southern DPS Green Sturgeon Life History and Use of HOODS

Southern DPS green sturgeon inhabit estuaries along the west coast during the summer and fall months (Moser and Lindley 2007) and are known to use the North Humboldt Bay heavily (Goldsworthy et. al. 2016, Pinnix 2008). Juvenile Southern DPS green sturgeon rear in their natal streams in California's Central Valley, so only sub-adult and adult SDPS green sturgeon are present in the marine environment offshore of Humboldt Bay and are the only life stages of SDPS green sturgeon that could be exposed to the effects of the Project. Sub-adults range from 65-150 cm total length from first ocean entry to size at sexual maturity. Sexually mature adults range from 150-250 cm total length.

Huff et al. (2011) found that green sturgeon off the Oregon coast spend a longer duration of time in areas with high seafloor complexity, especially around boulders. The seafloor complexity at HOODS likely provides preferred habitat for SDPS green sturgeon and green sturgeon have been observed and captured near HOODS. In 2017, a green sturgeon was captured in a crab trap offshore of Humboldt Bay (Goldsworthy 2017). SDPS green sturgeon are expected to frequent HOODS and the bathymetric anomalies created by disposal events likely provide preferred habitat conditions.

Southern DPS Pacific Eulachon Life History and Use of HOODS

Eulachon begin migration during January in small numbers (Young 1984) and the peak spawning migration occurs between March and April (Larson and Belchik 1998). The only reported commercial catch of Eulachon in northern California occurred in 1963 when a combined total of 56,000 pounds was landed from the Klamath River, the Mad River, and Redwood Creek (Odemar 1964). Since 1963, the run size has declined to the point that only a few individual fish have been caught in recent years. However, in January 2007, six Eulachon were reportedly caught by tribal fishers on the Klamath River. Another seven Eulachon were captured between January and April of 2011 at the mouth of the Klamath River (McCovey 2011). Eulachon use of HOODS is expected to be very low, given the depths at HOODS are marginal for eulachon.

Consultation History

On November 18, 2019, NMFS received an initiation package from the USEPA to initiate informal consultation and requested NMFS concurrence that the Project, as proposed, is not likely to adversely affect SONCC coho salmon, CC Chinook salmon, NC steelhead, SDPS green sturgeon, SDPS Pacific eulachon, or their designated critical habitats. The USEPA also determined the Project would have no effect on species managed under the Pacific Coast Groundfish Fishery Management Plan (FMP), Pacific Salmon FMP, or Coastal Pelagic Species FMP.

On December 2, 2019, NMFS requested clarification from the USEPA via email, to clarify the expected distance of the effects of the action. On December 12, 2019, the USEPA responded that turbidity is expected to travel as far as 800 feet from the boundary of HOODS, yet occur primarily along the seafloor for as long as 15 minutes per disposal episode. On December 12, 2019, NMFS initiated informal consultation.

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, “effects of the action” means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is not likely to adversely affect listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

The primary potential effect of the Project upon listed individuals includes a temporary increase in turbidity during disposal events. The USEPA estimates that turbidity will be temporary and minor in nature, returning to baseline conditions within 15 minutes of disposal. The anticipated size of the turbidity plume represents about 3% of the action area, leaving significant areas undisturbed for all listed species to use if the turbidity startles and disperses individuals. Most likely, most individuals might be attracted to the disturbance and temporary availability of prey items in the water column as dredged materials settle to the seafloor. No reductions in fitness are expected. Therefore, NMFS expects the effects to SONCC coho salmon, CC Chinook, NC steelhead, SDPS green sturgeon, and SDPS Pacific eulachon to be insignificant.

The primary potential effects of the Project on critical habitat designated for SDPS green sturgeon include a temporary increase in turbidity, and the possibility of continued mounding and changes to make the bathymetry of the seafloor more complex. As previously stated, Huff et al. (2011) found that seafloor complexity contributes to an increase in use and occupancy by green sturgeon individuals. NMFS expects that the expansion and continued changes to the bathymetry of the seafloor within the action area will not reduce the quantity or quality of designated critical habitat. Therefore, NMFS believes the effects of the Project are insignificant to the critical habitat designated for SDPS green sturgeon.

Conclusion

Based on this analysis, NMFS concurs with the USEPA that the proposed action may affect, but is not likely to adversely affect SONCC coho salmon, CC Chinook salmon, NC steelhead, SDPS green sturgeon, SDPS Pacific eulachon or the designated critical habitat for SDPS green sturgeon.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by USEPA or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

Under the MSA, this consultation is intended to promote the protection, conservation and enhancement of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”, and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10), and “adverse effect” means any impact which reduces either the quality or quantity of EFH (50 CFR 600.910(a)). Adverse effects may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

This analysis is based, in part, on the EFH assessment provided by the USEPA and descriptions of EFH for Pacific Coast Groundfish (PFMC 2014), Coastal Pelagic Species (PFMC 1998), and Pacific Coast Salmon (PFMC 1999) contained in the FMPs developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce. The Pacific Coast Groundfish EFH includes all waters from the mean high water line, and the upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon, and California seaward to the boundary of the EEZ (PFMC 2014). The east-west geographic boundary of Coastal Pelagic EFH is defined to be all marine and estuarine waters from the shoreline along the coasts of California, Oregon, and Washington offshore to the limits of the EEZ and above the thermocline where sea surface temperatures range between 10°C and 26°C. The southern extent of EFH for Coastal Pelagics is the United States-Mexico maritime boundary. The northern boundary of the range of Coastal Pelagics is the position of the 10°C isotherm, which varies both seasonally and annually (PFMC 1998). In estuarine and marine areas, Pacific Coast Salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent (200 miles) of the U.S. Exclusive Economic Zone (EEZ) offshore of Washington, Oregon, and California north of Point Conception to the Canadian border (PFMC 1999). Thus, the proposed Project occurs within EFH for various Federally-managed species in the Pacific Coast Salmon, Pacific Groundfish, and Coastal Pelagics FMPs.

Adverse Effects on Essential Fish Habitat

NMFS determined the proposed action would adversely affect EFH for Pacific Coast Groundfish, Coastal Pelagic Species, and Pacific Coast Salmon Fishery Management Plans as follows:

- Temporarily degraded water quality within the action area due to the turbidity caused by suspended sediment
- Disposed materials may displace, bury or suffocate epi-benthic and infaunal prey items

Adverse Effects to Water Quality

Elevated turbidity conditions in action area and the Pacific Ocean are a relatively frequent occurrence. Water clarity can be affected naturally due to wave action on shallow mudflats and coastal bluffs, storm runoff being delivered from local rivers (including the Eel River), and algae blooms. Each disposal event is expected to generate turbidity for as long as 15 minutes, which may displace or change the behaviors of species within the vicinity of the disposal event, disrupting the quality of EFH while sediments settle to the bottom.

Adverse Effects to Prey

Disposal events may bury the infaunal or epi-benthic prey items for many managed species. Typically, these areas are recolonized and return to their previous condition within a short time after the disposal occurs. In some cases, repeated disposal events may affect the same area and cause even further delays. The quantity and quality of EFH will be reduced while prey resources recover and recolonize.

EFH Conservation Recommendations

NMFS determined that the following conservation recommendation is necessary to avoid the adverse effects of the proposed action on EFH:

1. To compensate for the temporary reductions in the quality and quantity of EFH, NMFS recommends that USEPA direct users of HOODS, including the expansion areas being proposed, to maximize the amount of mounding, rather than distributing spoils evenly. Many species, including SDPS green sturgeon, spend more time in areas of higher seafloor complexity. Mounding spoils to the maximum allowed height is likely to provide higher frequencies of usage by managed species, and may allow for a larger area to remain undisturbed.

Within 30 days after receiving EFH recommendations, USEPA must provide NMFS with a detailed written response (50 CFR 600.920(k)(1)). The number of conservation recommendations accepted should be clearly identified in that response. If your response is inconsistent with the EFH conservation recommendations, you must explain why the recommendations will not be followed, including the scientific justification for any disagreements over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects. The USEPA must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH determinations (50 CFR 600.920(l)). This concludes the MSA portion of this consultation.

Please direct questions regarding this letter to Matt Goldsworthy at (707) 825-1621 or via email at Matt.Goldsworthy@noaa.gov.

Sincerely,



Jeffrey Jahn
South Coast Branch Chief

cc: Copy to ARN File # 151422WCR2019AR00260

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From: Ross, Brian

Sent: Tuesday, January 21, 2020 2:08 PM

To: Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>; Jeffrey Jahn <jeffrey.jahn@noaa.gov>

Cc: Allan Ota (ota.allan@epa.gov) <ota.allan@epa.gov>; John.R.Dingler@usace.army.mil; Jennifer Siu <siu.jennifer@epa.gov>; Beach, Tessa E CIV USARMY CESP (USA) <Tessa.E.Bernhardt@usace.army.mil>; Ziegler, Sam <Ziegler.Sam@epa.gov>; Peter.Mull@usace.army.mil

Subject: EPA consultation response - Expansion of HOODS Consultation (WCRO-2019-03626)

Hello Matt,

Please find attached EPA's positive response to NMFS's consultation No. WCRO-2019-03626, re. expansion of the HOODS ocean disposal site. This response was coordinated with the San Francisco District USACE. The original is being mailed as well. Please feel free to contact me directly if there are any questions.

Thank you again for your close coordination on this matter. We look forward to further coordination as our rulemaking to expand HOODS proceeds over the coming months!

Brian D. Ross

Dredging & Sediment Management Team

US EPA Region 9 (WTR-2-4)

75 Hawthorne Street

San Francisco, CA 94105

415-972-3475

Note: EPA cannot receive attachments larger than 20 MB.

(Attachment follows)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

January 16, 2020

Jeffrey Jahn
South Coast Branch Chief
National Marine Fisheries Service
West Coast Region
ATTENTION: Matt Goldsworthy
1655 Heindon Road
Arcata, California 95521-4573

**Subject: ESA Section 7(a)(2) and MSFCMA EFH Consultation Response,
Expansion of HOODS (NMFS No. WCRO-2019-03626)**

Dear Mr Jahn,

Thank you for your December 20, 2019 letter¹ responding to EPA's consultation request under the Endangered Species Act and the Magnuson-Stevens Fishery Conservation and Management Act, regarding our proposal to expand the boundaries of the existing Humboldt Open Ocean Disposal Site (HOODS) offshore of Eureka, California. In your consultation response you concurred with EPA's determination that the proposed action may affect but is not likely to adversely affect certain listed fish species managed by NMFS, or their critical habitat. Your consultation response also determined that our proposed action as described would have only temporary adverse impacts on Essential Fish Habitat (EFH). To address those temporary effects, NMFS identified one conservation recommendation relating to how dredged material should be managed within the expanded HOODS footprint in the future.

My staff has discussed the NMFS conservation recommendation with the US Army Corps of Engineers San Francisco District, with whom we share disposal site management responsibilities. Pursuant to 50 CFR §600.920(k)(1), we are pleased to agree that it should be practicable to implement the conservation recommendation at HOODS, with only minor caveats as noted below. We look forward to working with your office in the weeks ahead to formulate a specific implementation approach, that we will include in the Site Management and Monitoring Plan (SMMP) for HOODS. The SMMP will then be published for public comment along with the site expansion Proposed Rule package later this year and will be in force immediately upon the effective date of the Final Rule.

1 *"Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Expansion of the Existing Humboldt Open Ocean Disposal Site (HOODS), located offshore of Eureka, Humboldt County, California"* (consultation response).

Maintaining the purpose of HOODS

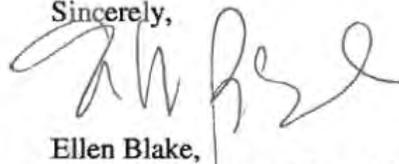
The HOODS location was chosen to provide an environmentally acceptable site for disposal of non-toxic dredged sediments that cannot practicably be reused elsewhere for beneficial purposes. An important aspect of an environmentally acceptable site is that it has the least possible conflict with important aquatic habitats or other uses of the ocean. HOODS' location within an area of otherwise topographically featureless benthic habitat is one key reason for the lack of environmental impact associated with disposal there. The NMFS conservation recommendation would result in EPA and USACE going beyond operating the site to merely minimize adverse impacts, by managing disposal to actually improve habitat quality (especially for green sturgeon by increasing seafloor complexity). EPA and USACE are amenable to managing HOODS in such a manner, provided that ongoing and future disposal would not be affected. It must be understood that potentially improved habitat value, including for listed species, would be an overall benefit of site management during times when disposal is not occurring; but disposal remains the primary purpose of the site. In fact, improved habitat quality could not be realized at this location absent carefully managed disposal occurring, in accordance with all federal regulations.

Multiple approaches to disposal management

Provided that ongoing disposal is not affected, there could be a number of specific ways to manage disposal in order to satisfy the NMFS conservation recommendation to create more seafloor complexity than would otherwise exist in the area. For example, all of any one year's disposal events could be focused in a particular area (leaving most of the disposal site undisturbed), and then each subsequent year's disposals could be focused in separate areas. This would allow all but the one year's active disposal area to remain undisturbed, as well as allowing multiple years of benthic recovery to occur before any one area is disturbed again. Similarly, smaller disposal volumes (less than a complete year's dredging) could be placed in multiple smaller areas each year. This would result in a greater area of benthic habitat being temporarily disturbed each year but could increase overall seafloor complexity more quickly. Whatever specific approach is selected, it may also be desirable for the SMMP to map out, in advance, where several years of disposals should occur. This would help USACE and other dredgers using HOODS better plan their disposal activities. Of course, future SMMP updates could modify the initial multi-year disposal approach as appropriate.

Thank you again for your prompt and constructive attention to this consultation. EPA looks forward to continuing to work closely with your office as we complete the HOODS expansion process this year. Please do not hesitate to contact me (415-972-3496) or have your staff contact Brian Ross (415-972-3475) if there are any questions.

Sincerely,



Ellen Blake,
Assistant Director, Water Division

Cc: Tessa Beach, USACE

Coordination with potentially affected Tribes

As noted in Section 7.2, EPA sent scoping information in February and April, 2019 to 10 recognized Native American Tribes potentially affected by the proposed action. This information included detailed project descriptions and a discussion of alternatives. EPA and USACE also offered to meet separately with these tribes when the public scoping meetings occurred in Eureka in August. No substantive comments were received during the scoping phase. The ten tribes contacted include:

- Bear River Band, Rohnerville Rancheria
- Big Lagoon Rancheria
- Blue Lake Rancheria
- Cher-Ae Heights, Trinidad Rancheria
- Hoopa Valley Tribe
- Karuk Tribe
- Quartz Valley Reservation
- Resighini Rancheria
- Wiyot Tribe

This Appendix includes one example of each of the three letters sent to the 10 Tribes between February 2019 and April 2020. But all of the (virtually identical) letters are not reproduced here. Copies of all the Tribal consultation letters are available on request from EPA Region 9.

Example Tribal scoping letter, February 2019

From: Kirkpatrick, Catherine <kirkpatrick.catherine@epa.gov>

Sent: Wednesday, January 30, 2019 3:16 PM

To: crystal.robinson@qvir-nsn.gov

Subject: RE: HOODS Expansion Proposal

Dear Crystal Robinson,

Please find attached a copy of a letter that has been mailed to Freida Bennett, Chairperson of Quartz Valley Indian Reservation about EPA's proposal to expand the existing Humboldt Open Ocean Disposal Site (HOODS), which lies 3-4 miles offshore of Humboldt Bay. EPA is seeking any initial comments Quartz Valley Indian Reservation may have, so that we may reflect them in the Environmental Assessment we are currently preparing. We will initiate additional consultation with Quartz Valley Indian Reservation this summer, in accordance with the *EPA Policy on Consultation and Coordination with Indian Tribes* available at <https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes..>

Thank you in advance for any comments you may have on this matter. If you have any questions please do not hesitate to contact Brian Ross of our Dredging & Sediment Management Team (415-972-3475, ross.brian@epa.gov).

Catherine Kirkpatrick
USEPA Region 9
75 Hawthorne Street
San Francisco, CA 94105



(Attachment follows)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JAN 30 2019

Frieda Bennett
Chairperson
Quartz Valley Indian Community of the Quartz Valley Reservation of California
13601 Quartz Valley Road
Fort Jones, California 96032

Dear Chairperson Bennett,

The U.S. Environmental Protection Agency (EPA) is seeking early engagement under the *EPA Policy on Consultation and Coordination with Indian Tribes* regarding expansion of the Humboldt Open Ocean Disposal Site (HOODS). At this point in the process, EPA is interested in general tribal perspectives on this subject, and at a later date plan to re-engage with tribes in additional consultation as the project develops.

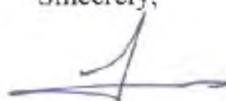
EPA designated HOODS in 1995 to provide an environmentally appropriate location for disposal of clean, non-toxic sediment dredged from the Humboldt Bay's navigation channels, marinas, and docks. EPA manages this site which is located approximately three miles offshore from the entrance to Humboldt Bay. After almost 25 years, HOODS is reaching capacity and EPA is evaluating options to expand the site to accommodate future dredging necessary to support safe harbor navigation and the area's maritime-based economy.

EPA expects to prepare a proposed rulemaking by Summer 2019 to expand HOODS and seeks your early input as we evaluate various options. The project description attached for your review describes the schedule and process and provides background information. An EPA site monitoring report is available for review online¹ and the data from 2008 to 2014 indicate that the use of HOODS has not resulted in any adverse impacts to marine life or to offshore sediment quality.

¹ HOODS monitoring synthesis report: https://www.epa.gov/sites/production/files/2016-09/documents/humboldt_open_ocean_disposal_site_hoods_2008-2014_monitoring_synthesis_report.pdf.

As noted above, EPA will re-engage with you in consultation by Summer 2019, again in accordance with the *EPA Policy on Consultation and Coordination with Indian Tribes* available at <https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes>. If you have any input for the Agency at this early date about the proposed expansion of HOODS, please contact Brian Ross of my staff at ross.brian@epa.gov, (415) 972-3475.

Sincerely,


Tomás Torres
Director, Water Division

January 29, 2019

cc: Crystal Robinson, Environmental Director
Quartz Valley Indian Reservation (and Klamath Consortium)

ATTACHMENT: HOODS Expansion Project Description

Project Description: Summary of EPA's Proposal to Expand the Humboldt Open Ocean Disposal Site (HOODS)

INTRODUCTION

The Humboldt Open Ocean Disposal Site (HOODS) was designated by the U.S. Environmental Protection Agency (EPA) in 1995, based on a full EIS, to provide an environmentally appropriate location for disposal of clean (non-toxic) sediments dredged from Humboldt Bay area navigation channels. The continued availability of an ocean dredged material disposal site (ODMDS) in the vicinity of Humboldt Bay is necessary to maintain safe deep-draft navigation via authorized federal channels and other permitted shipping facilities. The HOODS site has experienced significant mounding, creating the possibility of potentially hazardous navigation conditions in the future if the mounding worsens. Today, HOODS has limited remaining capacity to receive future dredge material disposals. While the situation does not constitute an imminent hazard, EPA and USACE have determined that expedited management action is required to prevent adverse conditions from developing. If disposal capacity at HOODS is not expanded soon, the ability to maintain Humboldt Bay navigation channels, and the commercial and recreational uses they support, is at risk.

EPA is in the process of preparing an environmental assessment to support this expansion. A preliminary evaluation has determined that expansion of the HOODS boundaries would continue to meet all the criteria and factors set forth in the Ocean Dumping regulations published at Parts 228.5 and 228.6 of Title 40 Code of Federal Regulations (CFR). These regulations were promulgated in accordance with the criteria set out in Sections 102 and 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA). The EA currently under preparation will describe compliance with these factors, as well as the National Historic Preservation Act, the Coastal Zone Management Act, and the Endangered Species Act.

1. BACKGROUND

1.1 Location

Humboldt Harbor and Bay is located in Humboldt County on the coast of Northern California (Figure 1), approximately 225 nautical miles north of San Francisco and approximately 156 nautical miles south of Coos Bay, Oregon. Humboldt Bay is the second largest coastal estuary in California. It is the only harbor between San Francisco and Coos Bay with channels large enough to permit the passage of large ocean-going vessels.

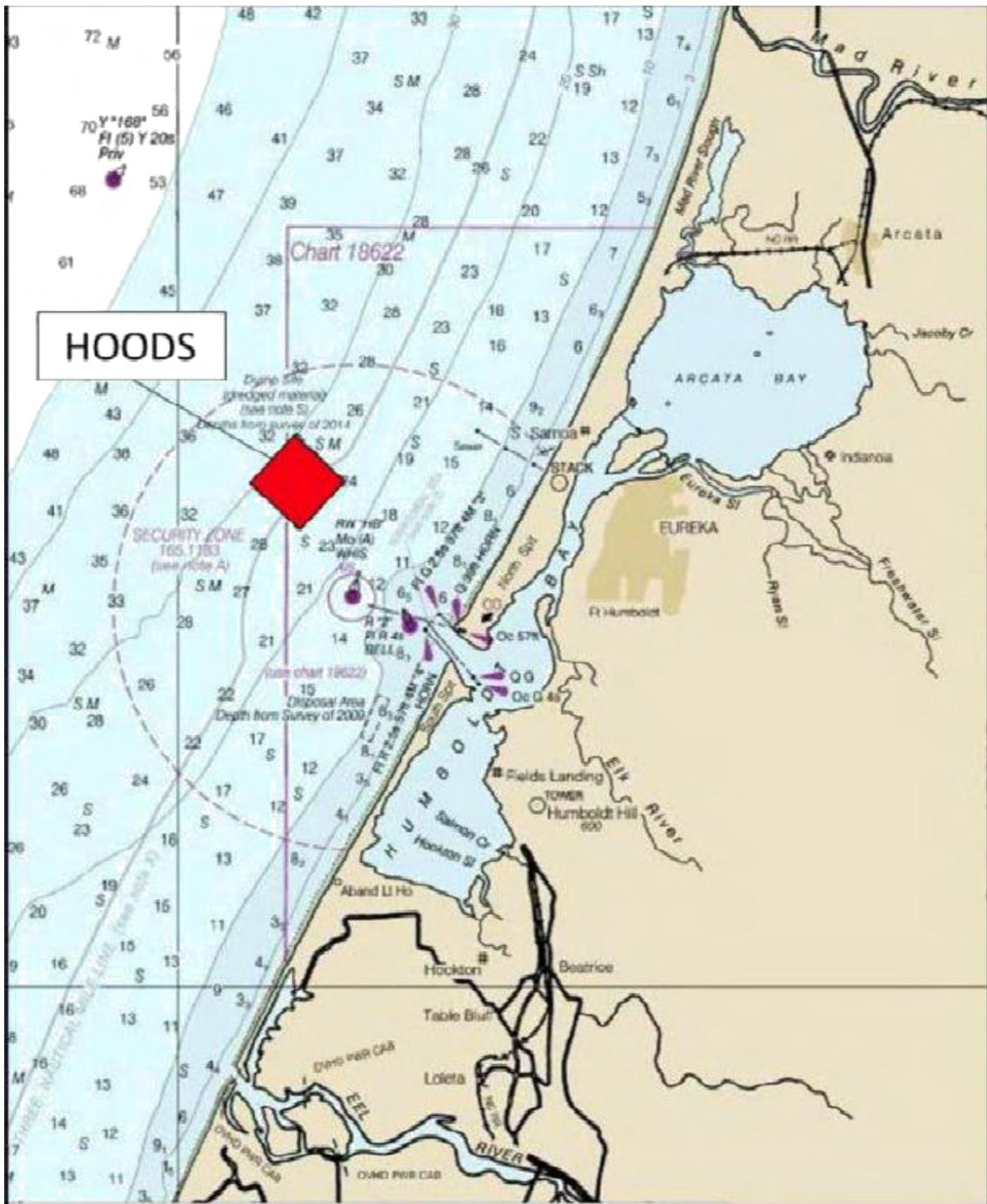


Figure 1: Humboldt Bay area, showing the location of the existing Humboldt Open Ocean Disposal Site (HOODS).

Humboldt Bay lies in a narrow coastal plain surrounded by rolling terraces, steep mountains, and narrow valleys typical of the coastal ranges in the region. Much of the forested area consists of coastal redwoods and Douglas fir. Eureka, the largest city on the north coast of California and the seat of Humboldt County, and its neighbor, Arcata, are the two largest cities bordering the Bay. Eureka, which is approximately five miles east of the entrance to the Bay, is accessible from the water by the North Bay and Eureka channels. Arcata, which is approximately seven miles north of Eureka, was once accessible from the Bay by the Arcata Channel; however, this channel is no longer in use.

Humboldt Bay is a naturally land-locked estuary composed of two large bays, the relatively shallow South Bay to the south and the larger Arcata Bay to the north. The Bay extends north and south for a distance of approximately 14 miles, covering 26.5 square miles at high tide and approximately 7.8 square miles at low tide. A long, narrow thalweg and a small bay, the Entrance Bay, connect South and Arcata Bays, providing an outlet to the Pacific Ocean. Humboldt Bay is separated from the Pacific Ocean by a sand spit that is incised by two large armored rubble-mound jetties – the North and South Jetties. These fabricated rubble-mound jetties, constructed by USACE, which are approximately 2,000 feet apart, define the entrance channel to Humboldt Harbor, which requires regular dredging to maintain safe navigation.

1.2 Humboldt Bay Navigation and Dredging History

Humboldt Bay has been dredged for navigation purposes for nearly 140 years (Table 1). USACE first began dredging Humboldt Bay's interior channels in 1881 to provide safe navigation within the bay. The first attempt at stabilizing the Entrance Channel to Humboldt Bay commenced in 1889 when USACE started constructing the North and South Jetties; they were completed in 1900. Since then, there have been periodic changes to Humboldt Harbor and Bay to provide safe navigation for ocean-going vessels of many sizes. Humboldt Bay is also a designated harbor of refuge with an important U.S. Coast Guard presence.

Today the USACE conducts annual operation and maintenance (O&M) dredging activities of the federal navigation channels in Humboldt Bay with disposal of the dredged material at HOODS (Figure 1). Maintenance dredging to maintain Humboldt Bay's navigation channels occurs in the Bar and Entrance Channels and in the Interior Channels (Table 2) any time between mid-March through the end of September. Typically, a large hopper dredges (e.g., the *Essayons*) works sandy areas at and near the entrance channel because smaller hopper dredges, and mechanical (clamshell) or cutterhead/pipeline dredges cannot operate safely in the rough seas encountered in the Entrance Channel. Smaller hopper dredges (e.g., the *Yaquina*) can safely work the Federal channels inside the Bay, and mechanical or pipeline dredging can be conducted in the interior marinas and commercial docks of Humboldt Bay.

During recent years, due to Federal budget limitations, USACE has focused on maintaining the Bar and Entrance Channel where clean sand deposits build up quickly. Entrance channel dredging alone has averaged approximately 1 million cubic yards (cy) each year, while interior channels and marinas/docks are dredged less frequently and generally dredge a relatively small volume compared the Bar and Entrance Channel (Figure 2, Table 3). However, USACE estimates that there is currently a backlog of approximately 4.5 million cy of sediment that would need to be dredged to return all of the Federal Channels to full authorized depth.

Table 1: General Chronology of Humboldt Harbor and Bay navigation improvements

DATE	DESCRIPTION
1806	First recorded chart of Humboldt Bay (Bay of the Indians) by the Wiyot Indians.
1849	Humboldt Bay rediscovered and named Trinity Bay.
1850	Renamed Humboldt Bay.
1853	First marker buoys used for the Bay.
1856	Light tower construction completed on North Spit.
1871	Studies for navigation improvements begin.
1881	600 vessels per year using the Bay.
1881	Brush and plank jetties constructed but destroyed the following winter.
1881	First USACE project authorized, the Eureka Channel is dredged.
1881	Arcata, Samoa , and Hookton Channels dredged for the first time.
1883	First survey for a low water jetty on the South Spit
1884	South Jetty authorized.
1887	Training wall was shown on South Spit Jetty plans.
1888	Dual jetties authorized.
1889	South Jetty construction commences (brush and stone construction).
1891	North Jetty construction commences.
1894	North Jetty built out to Bend 420, South Jetty built out to Bend 230.
1896	Bar Channel deepened to 25 feet deep and 100 feet wide.
1900	Initial jetty construction completed: 8,000 feet long, 5 to 10 feet above MLLW.
1911– 1917	Jetties damaged, repaired, and raised from original elevation of 10 to 12 feet MLLW to a reconstructed height of 18 feet above MLLW.
1939	Dual rubble-mound jetties completed.
1939	Entrance Channel completed: 30 feet deep and 500 feet wide.
1939	Eureka, Samoa, Arcata , and Fields Landing Channels initial construction completed.
1954	Entrance Channel deepening completed to 40 feet.
1954	Eureka and Samoa Channels deepening (30 feet) completed and North Bay Channel initial construction completed.
1959	Engineering and design study; repair North and South Jetties.
1960– 1963	Repair jetty damage of winter 1957–1958.
1964– 1965	Extreme damage to jetties, 100-ton blocks washed away.
1966– 1967	Repair and maintenance on North and South Jetties.
1969	Jetty repair study and model conducted by the USACE' Engineering Research and Design Center (ERDC) in Vicksburg, Mississippi.
1971	Humboldt Bay Bridge completed, connecting the North Spit with Eureka.
1971– 1973	Heads of both jetties completely destroyed, dolos placed on jetties.
1977	USACE names jetties a historical engineering landmark .
1995	EPA designates HOODS as a new permanent ODMDS
1999	Bar and Entrance Channel deepened to 48 feet MLLW and segments of the interior channels to –38 MLLW.
1999	Deepening of Samoa Turning Basin to 38 feet MLLW.
To date	USACE places an average of ~1,000,000 cy/year of entrance channel sand at HOODS

Table 2: Description of Humboldt Harbor Federal Navigation Channels

Channels	Authorized Depth (ft MLLW)	Width (ft)	Length (ft)	Typical Volume, Annualized (cy)	Sediment Type
Bar and Entrance	48	500 - 1,600	8,500	1,100,000	Sand & gravel
North Bay	38	400	18,500	100,000	Sand
Samoa + Turning Basin	38	400 - 1,000	8,100 + 1,000	20,000	Sand
Eureka	35	400	9,700	25,000	Silt
Field's Landing + Turning Basin	26	300 - 600	12,000 + 800	6,000	Sand & Silt

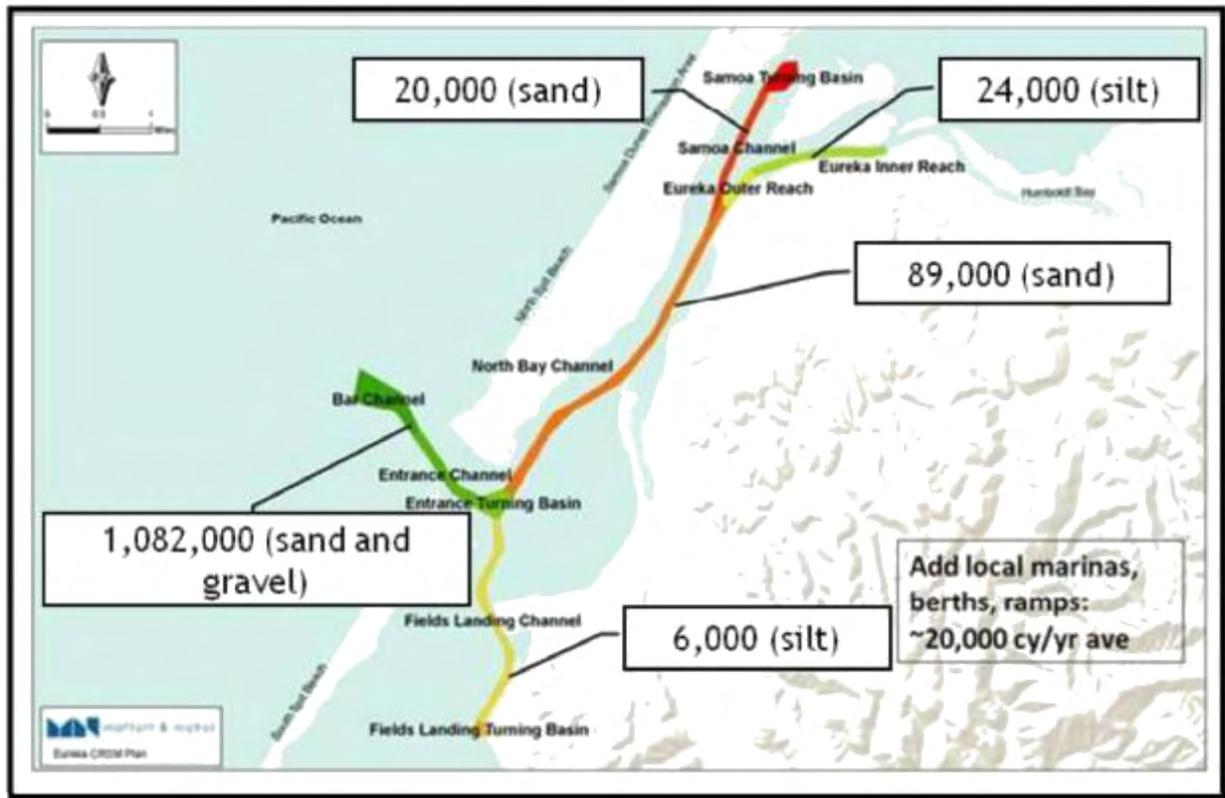


Figure 2: Humboldt Bay's federal navigation channels and the typical volume of sediment (cy) dredged from each, on an annualized basis. Note that several additional facilities are managed by other permittees (including the City of Eureka, the Humboldt Bay Harbor District, the US Coast Guard, and various commercial docks) that are also dredged periodically. But volumes dredged for those facilities are cumulatively much less than the USACE dredging.

Table 3: Recent annual dredging volumes for the federal channels, in 1,000s of cy.

Year	Large Hopper Dredges ¹	Small Hopper Dredges ²
2007	1,123	173
2008	1,094	217
2009	955	108
2010	770	0
2011	1,199	155
2012	1,183	0
2013	573	102
2014	625	0
2015	715	0
2016	1,715	0
2017	1,047	0
Total	10,999	755
Average	1,000	69

¹e.g., *Essaysons*

²e.g., *Yaquina*

1.3 Ocean Disposal at HOODS

Ocean dredged-material disposal sites around the nation are designated by EPA under the authority of the Marine Protection, Research and Sanctuaries Act (U.S.C. 1401 et seq., 1972) and the Ocean Dumping Regulations at 40 CFR 220-228. Disposal-site locations are chosen based on several general and specific site selection factors (EPA 1995, and discussed further below), specifically to minimize cumulative environmental effects of disposal to the area or region where the site is located. Disposal operations must be conducted in a manner that allows each site to operate without significant adverse impacts to the marine environment, and without significant conflicts with other uses of the ocean.

The HOODS location was first used as a disposal site in September 1990, under a temporary designation by USACE pursuant to Section 103 of MPRSA. In 1995, EPA Region IX released a final Environmental Impact Statement entitled *Designation of an Ocean Dredged Material Disposal Site off Humboldt Bay, California*. The EPA's final rule on designating HOODS as a multi-user disposal under Section 102 of MPRSA was published in the Federal Register on September 28, 1995 (60 Fed. Reg. 50,108). The site designation became effective on October 30, 1995 for a period of 50 years. Since then, approximately 25,000,000 yd³ of dredged material have been placed there, the vast majority of which has been clean sand from the Bar and Entrance Channel.

HOODS is a square disposal site, covering one square nautical mile (nmi²) of the sea floor (Figure 1 and Figure 3) in water depths naturally ranging from approximately 150 to 180 feet. Its centroid is located approximately 3.5 nmi offshore of the seaward end of the Entrance Channel into Humboldt Bay. Table 4 lists the corner coordinates of the overall site.

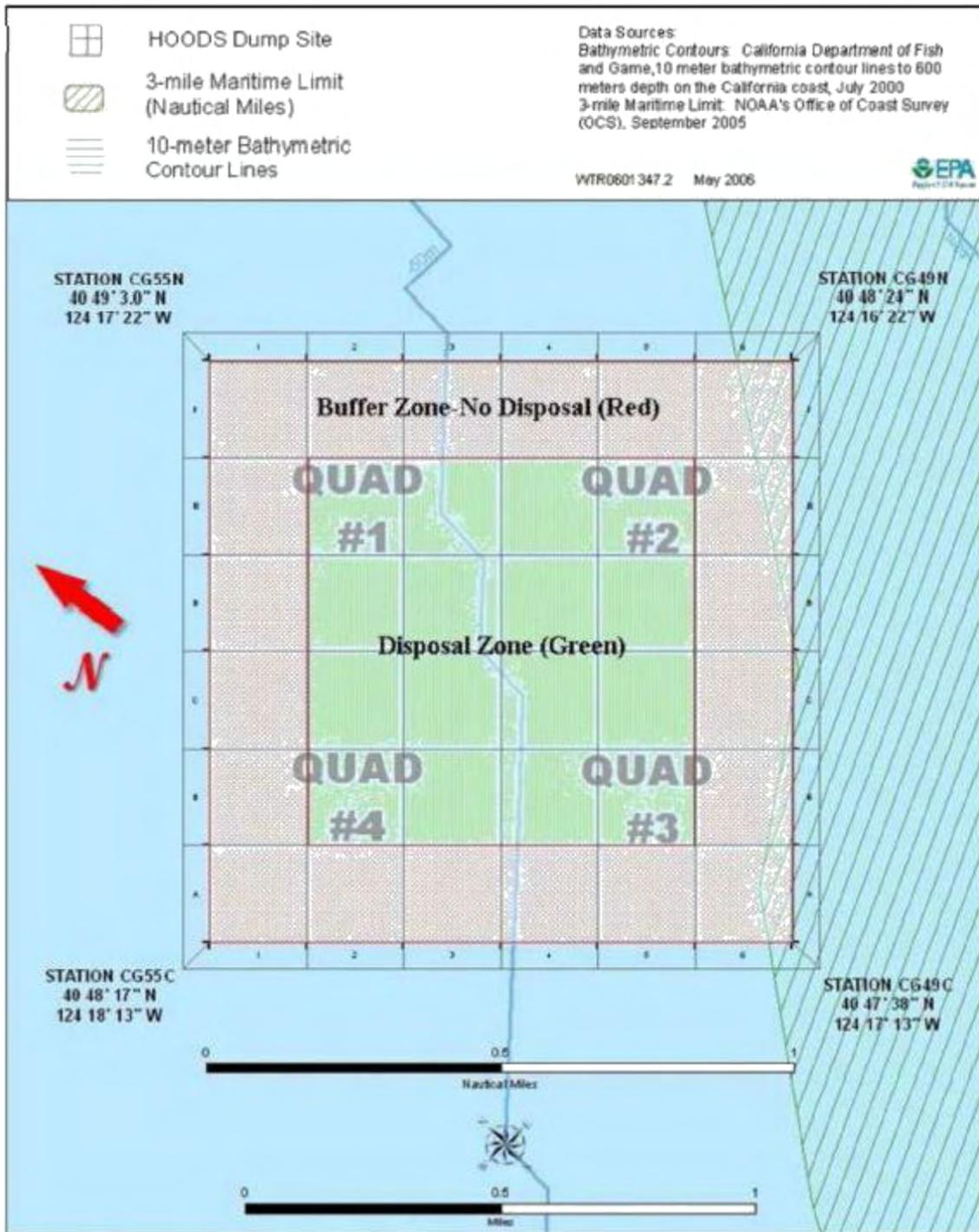


Figure 3: HOODS Detail. The site is divided into 4 quadrants and 36 individual cells. Initially, dredged-material disposal was only allowed in the green interior cells, so that material placed at the site would remain largely contained within the overall site boundaries. Over time, a number of the green interior cells have been closed in order to manage ongoing mounding at the site.

Table 4: HOODS existing corner coordinates (NAD 83).

Corner	Latitude	Longitude	Centroid Lat.	Centroid Long.
North	40° 49' 03" N	124° 17' 22" W		
East	40° 48' 24" N	124° 16' 22" W	40° 48' 20" N	124° 17' 17" W
South	40° 47' 38" N	124° 17' 13" W		
West	40° 48' 17" N	124° 18' 13" W		

The 1995 site designation EIS for HOODS identified a 50,000,000 cy capacity, and an estimated life of 50 years for HOODS based on a presumed average disposal rate of 1,000,000 cy/year. The 50,000,000 cy capacity equated to a mound at the site whose top elevation would not exceed approximately -130 feet mean lower low water (mllw). Mounding to much higher elevations (meaning, that created water shallower than -130 feet) was predicted to have the potential to affect the wave climate over the site during the largest winter storms. To avoid any such effect, and thereby avoid creating any potential navigation safety concerns, EPA has strictly managed how disposal occurs at HOODS. Under the HOODS Site Management and Monitoring Plan (SMMP), a cell-based management approach has been used to ensure that disposed material builds up (mounds) evenly at the site and does not substantially spread outside the site. Perimeter cells were used as a no-disposal buffer zone to ensure that most dredged material would be deposited on the seafloor within the overall site boundary. Individual disposal events (dump loads) are required to be discharged into interior cells only, and subsequent dumps must move to different interior cells. No cell can be used again until all allowable cells have been used. This method has ensured that mounding proceeds evenly, as confirmed by annual bathymetry surveys conducted by USACE. However, because the peripheral cells were used as a no-disposal buffer area, the effective site capacity was reduced to approximately 25,000,000 cy and 25 years.

1.4 Mounding of Sand at HOODS

The USACE San Francisco District monitors bathymetric condition at HOODS typically twice each year, before and after dredging and disposal. (Hydrographic surveys going back to at least 2009 are available on the USACE web site at <https://www.spn.usace.army.mil/Missions/Surveys-Studies-Strategy/Hydro-Survey/Humboldt-Bay-Channel/>). Over the years, several cells (especially near the center of the site) began to reach the -130 foot target depth. As this occurred, EPA closed such cells to further disposal. By 2014, the majority of the inner cells had reached, and in some cases somewhat exceeded, the -130 foot target (Figure 4, Figure 5). In consequence, beginning in 2015 EPA authorized ongoing disposal to occur only in deeper areas over the slopes of the disposal mound, halfway into the buffer cells of the existing site (Figure 6). This adaptation was expected to allow approximately 5 more years of additional disposal (at typical annual volumes), while still retaining the vast majority of the sand within the site boundaries. (This approach is reasonable specifically because the material being disposed by USACE is virtually all sand, which does not spread far from the placement location, the way silts or clays could, before settling on the bottom.) GPS-based monitoring of individual disposal events (a requirement of the SMMP for all projects using the disposal site) confirmed that the dredging equipment used by USACE is capable of successfully disposing of material with precision, in the new smaller cells (Figure 7).

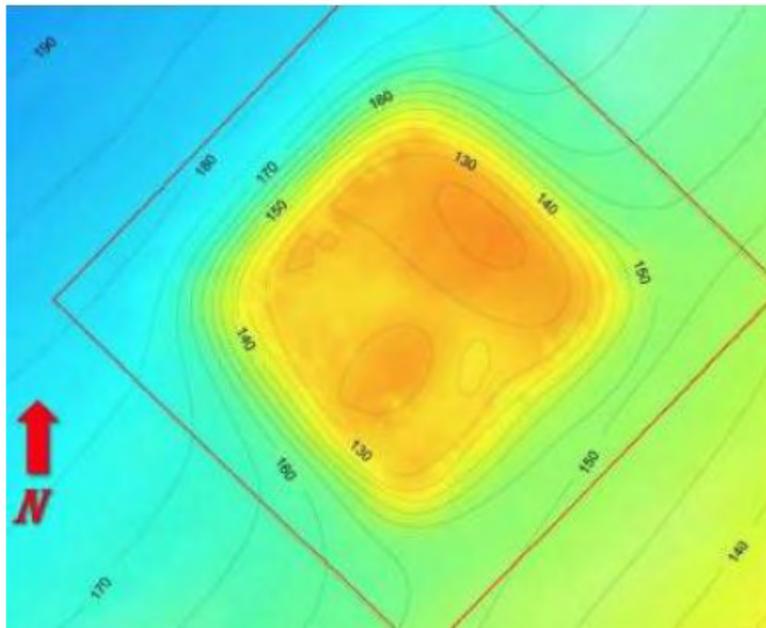


Figure 4. Shaded relief depiction of bathymetry at HOODS as of August 2014, showing mounding to -130 feet or less over much of the site. Red box is the existing disposal site boundary. Contours are in 5-foot intervals. Depths are shown in feet MLLW.

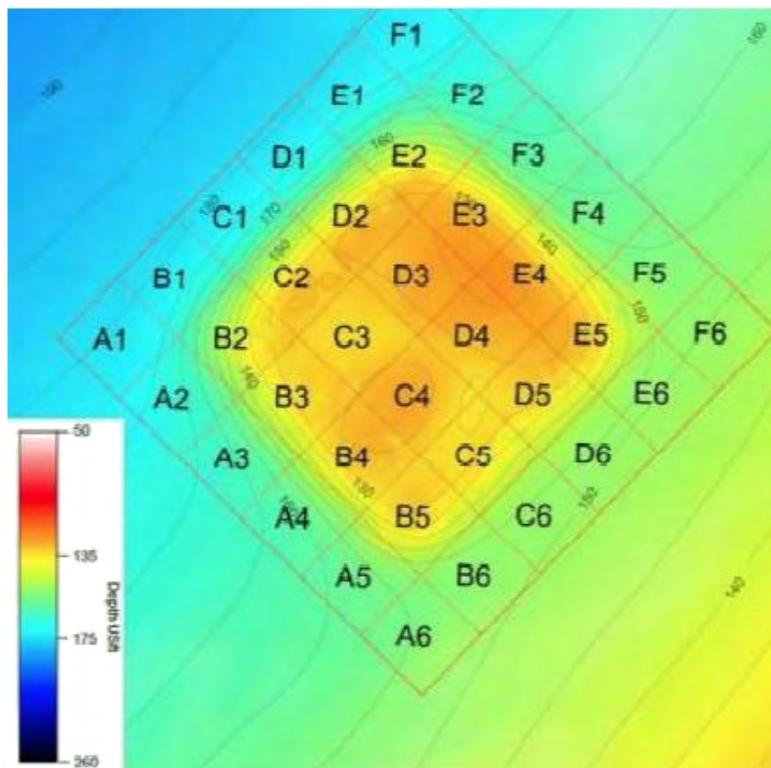


Figure 5. Map of HOODS disposal cells overlain on bathymetry from August 2014. Depths are in feet MLLW.

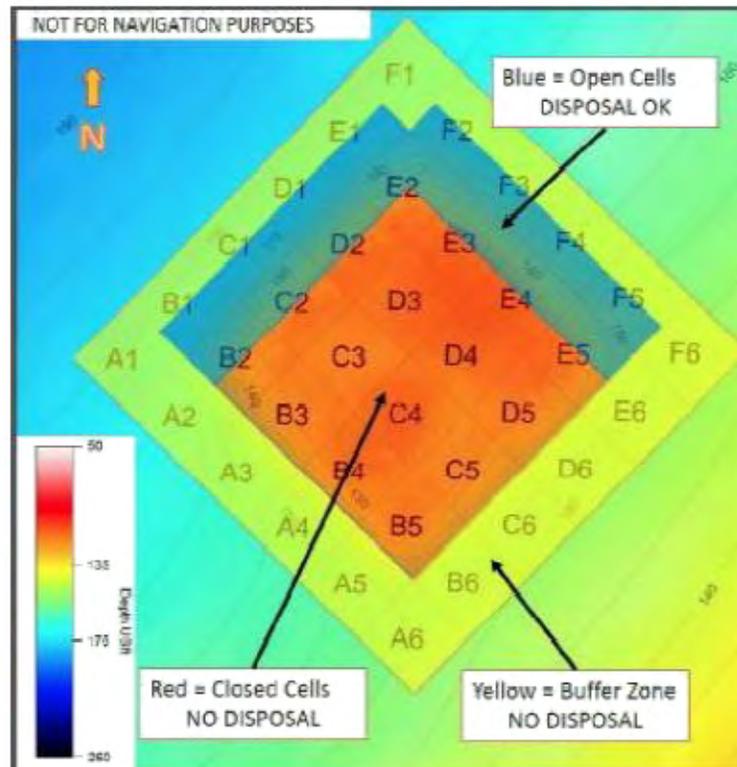


Figure 6. Open and closed disposal cells at HOODS starting in 2015, with disposal only allowed over the north and west slopes of the mound including portions of eight Buffer Zone cells on those sides. This increased short-term disposal capacity by 5.6 - 8 million cy, enough for approximately 5 more years, or through 2020

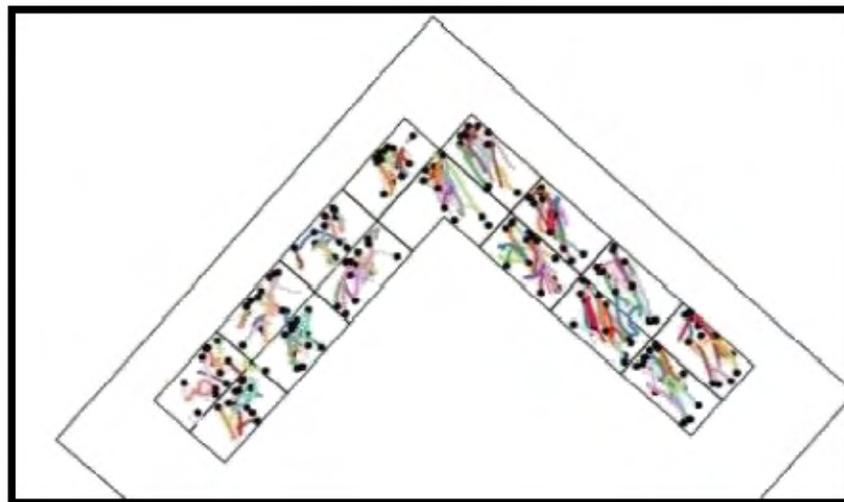


Figure 7. Locations of actual disposal events at HOODS in 2015. All disposal actions occurred successfully within the modified disposal cells, despite most of them being only ½ the size of previously-allowed disposal cells. Dots with lines show starting point and track of individual disposal events.

Bathymetric survey results from March 2018 led EPA to close additional portions of cells B2, C2, and D2 to further disposal in 2018 (Figure 8). Based on this adaptive management approach, EPA expects there to be adequate disposal capacity at HOODS through at least the year 2020.

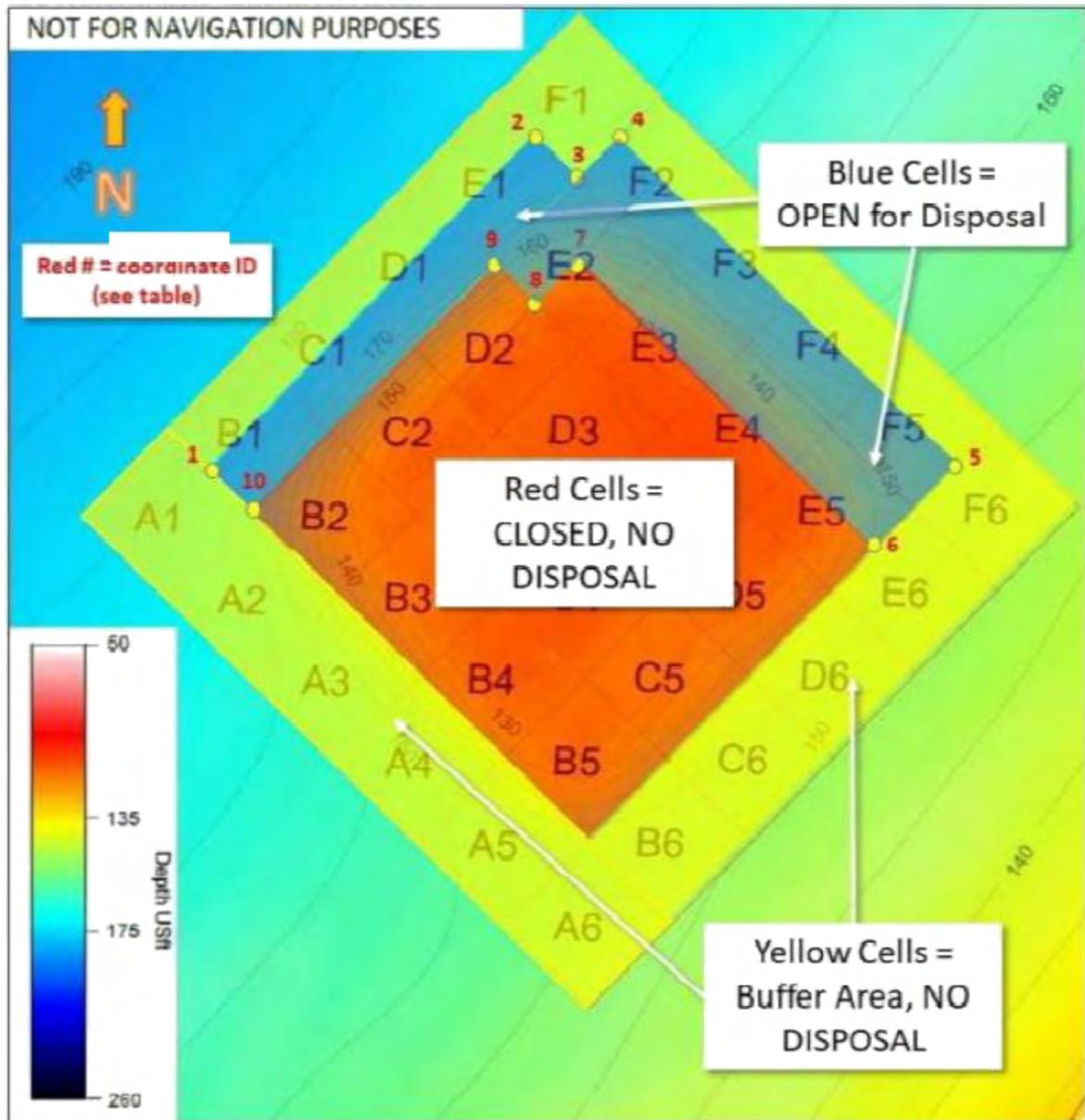


Figure 8. Open and closed disposal cells at HOODS for 2018. Mounding from ongoing disposal since 2015 has led to the closure of further portions of cells B2, C2, and D2. (Figure shows cell boundaries overlain on 2014 bathymetry.)

2. PURPOSE AND NEED FOR ACTION

2.1 Statutory and Regulatory Requirements

The Marine Protection, Research and Sanctuaries Act of 1972, as amended (MPRSA), also known as the Ocean Dumping Act, was passed in recognition of the fact that the disposal of material into ocean waters could potentially result in unacceptable adverse environmental effects. Under Title I of the MPRSA, the EPA and USACE were assigned responsibility for developing and implementing regulatory programs to ensure that ocean disposal would not "... unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities."

The EPA administers and enforces the overall program for ocean disposal. As required by Section 104(a)(3) of the MPRSA, ocean disposal of dredged material can occur only at a site that has been designated to receive dredged material. Pursuant to Section 102(c), the EPA has the responsibility for permanent site designation, while under Section 103 USACE can designate project-specific disposal sites on a temporary basis if an EPA-designated disposal site is not available.

The MPRSA criteria (40 CFR, Part 228) states that EPA's site designations under Section 102(c) must be based on environmental studies, and on historical knowledge of the impact of dredged material disposal on similar areas. General criteria (40 CFR 228.5) and specific factors (40 CFR 228.6) that must be considered prior to site designation were addressed in the 1995 HOODS EIS, and that evaluation was updated in 2008 and 2014 HOODS monitoring synthesis report (see September 2016 final report, available at https://www.epa.gov/sites/production/files/2016-09/documents/humboldt_open_ocean_disposal_site_hoods_2008-2014_monitoring_synthesis_report.pdf).

Related federal statutes applicable to the ocean disposal site designation process include the National Environmental Policy Act of 1969 as amended; the Coastal Zone Management Act of 1972 as amended; the Endangered Species Act of 1973 as amended; the Magnuson-Stevens Fisheries Conservation and Management Act of 1976 as amended; and the National Historic Preservation Act of 1966, as amended, as well as Executive Orders that may apply. Issues raised as a result of consultations with Federal and State agencies and Tribes will be addressed in the EA to be prepared.

Finally, an EPA-designated site requires a site management and monitoring plan (SMMP). Use of the designated site is subject to any restrictions included in the SMMP, which is expected to be reconsidered at least every 10 years. The original SMMP for HOODS was updated in 2006 after EPA conducted preliminary monitoring of the site. A revised draft SMMP will be included in the EA to be prepared.

2.2 Purpose of the Proposed Action

The primary purpose of the proposed action is to expand the boundaries of the existing HOODS ocean disposal site in order to provide capacity for ongoing safe disposal of suitable dredged material from Humboldt Harbor navigation channels and facilities. Ocean disposal currently remains necessary for most navigation dredging projects in and around Humboldt Bay, due to a lack of

available upland or beneficial reuse alternatives. Although various efforts are under way to create upland placement and other reuse opportunities in the area, only extremely limited capacity is presently available. Capacity for some degree of ocean disposal of suitable sediment will remain important in the future, even if new reuse opportunities become available over time.

2.3 Need for the Proposed Action

The need for the Proposed Action of expanding the HOODS boundaries is that the existing site is effectively “full”. Since the site was designated in 1995, disposal of approximately 25,000,000 cy of sand has occurred, resulting in a mound with an elevation (averaging approximately -130 feet mllw) that the original EIS identified as the maximum desirable. Ongoing mounding substantially above this elevation could begin to affect the action of waves in large storm events, potentially causing navigation safety concerns for vessels transiting the area. At the same time, ongoing dredging of the Humboldt Harbor navigation channels and related maritime facilities is necessary to ensure continued safe navigation to and within Humboldt Bay itself. Such safe navigation is crucial to the maritime-related commerce of the area. Therefore, reliable capacity to accommodate disposal or reuse of area dredged material will continue to be critically needed, and HOODS as it is currently configured will no longer be able to provide such capacity beginning in approximately 2020.

3. SITE EXPANSION OPTIONS

3.1 Alternative 1 (Preferred): Expansion by 1 nmi

Table 5: HOODS Alternative 1 corner coordinates (NAD 83).

Corner	Latitude	Longitude	Centroid Lat.	Centroid Long.
North	40° 50' 33" N	124° 18' 00" W		
East	40° 49' 27" N	124° 15' 45" W	40° 49' 05" N	124° 17' 35" W
South	40° 47' 38" N	124° 17' 13" W		
West	40° 48' 47" N	124° 19' 31" W		

Alternative 1, the Proposed Action, is to expand the existing HOODS boundary by 1 nmi to the north (upcoast) and 1 nmi to the west (offshore) (Figure 9). Alternative 1 is the Preferred Alternative because it would provide environmentally acceptable disposal capacity for many years, while also affording the most operational flexibility for managing the dredged material in a manner that would further minimize even physical impacts over time. This configuration would result in the total area of the site increasing from 1 square nmi to 4 square nmi. The effective total capacity of the site would increase from the original 25 million cy (see Section 1.3) to over 100 million cy (i.e., allowing for 75 million cy of additional disposal to occur), before mounding to -130 feet could again occur across the entire site. If today’s disposal practices were to continue unchanged (i.e., if 1 million cy of entrance channel sand per year were to continue being placed at HOODS indefinitely), the site would reach capacity again in about 75 years. However, the effective life of the expanded site could be much longer than 75 years if nearshore placement for beach or littoral system support were to begin at some point for the clean dredged sand. In that event, disposal of fine sediment would continue in the expanded HOODS footprint, but it could be managed in such a way that little or no additional long-term mounding would occur at all. Supporting information will be provided in the EA.

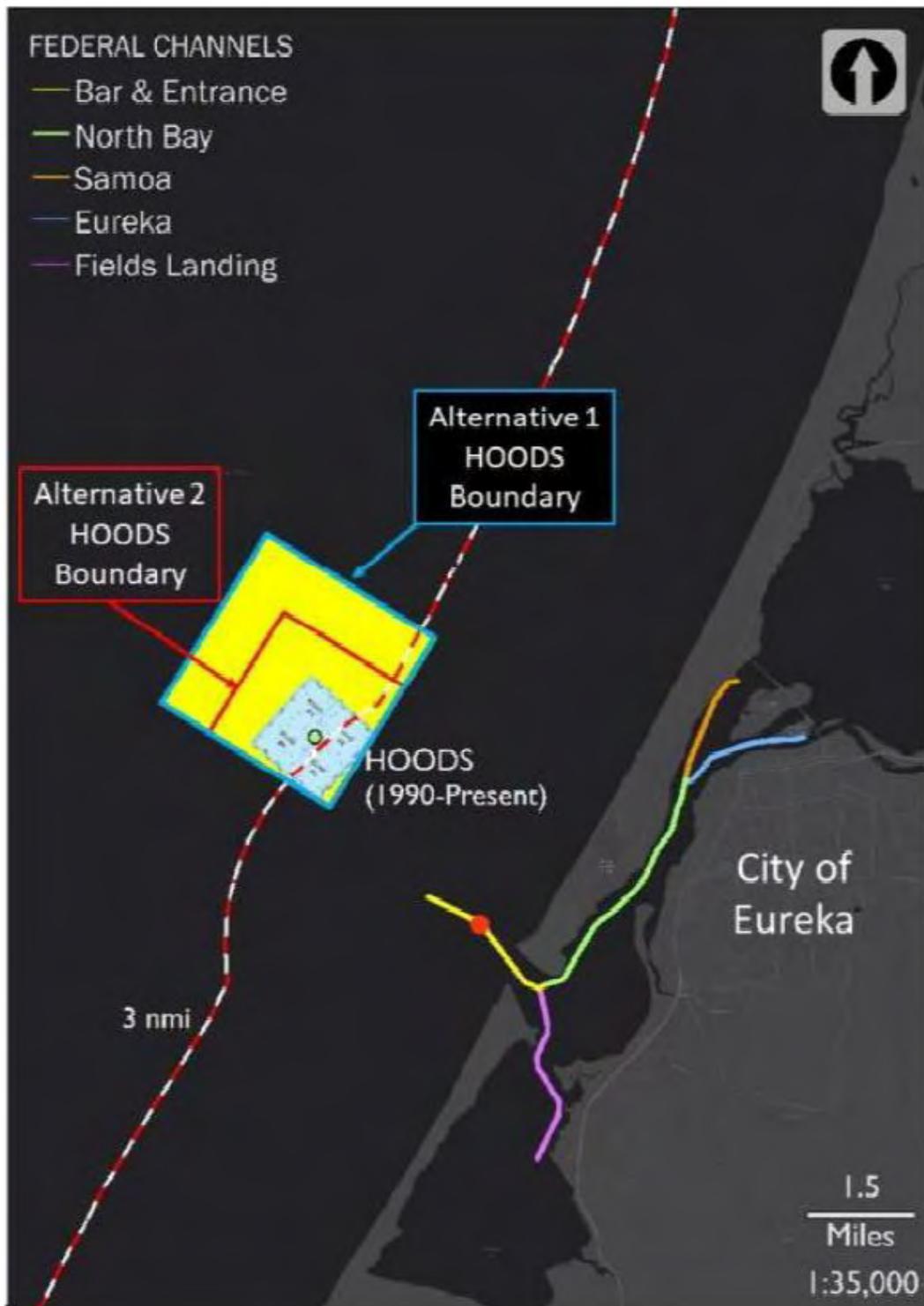


Figure 9. Proposed Action area, showing the current HOODS site, and the two boundary expansion alternatives in relation to the Humboldt Harbor federal navigation channels. Alternative 1 (proposed action) would expand the existing boundaries by 1 nmi to the north and west, while Alternative 2 would expand the boundaries by 1/2 nmi.

3.2 Alternative 2: Expansion by 1/2 nmi

Table 6: HOODS Alternative 2 corner coordinates (NAD 83).

Corner	Latitude	Longitude	Centroid Lat.	Centroid Long.
North	40° 49' 58" N	124° 17' 54" W		
East	40° 49' 26" N	124° 15' 44" W		
South	40° 47' 38" N	124° 17' 13" W	40° 48' 46" N	124° 17' 27" W
West	40° 48' 30" N	124° 18' 57" W		

Alternative 2 is the expansion of the existing HOODS boundary by 1/2 nmi to the north (upcoast) and 1/2 nmi to the west (offshore) (Figure 9). This configuration would result in the total area of the site increasing from 1 square nmi to 2.25 square nmi. The effective total capacity of the site would increase from the original 25 million cy (see Section 1.3) to approximately 56 million cy (i.e., allowing for approximately 31 million cy of additional disposal to occur), before mounding to -130 feet could again occur across the entire site. If today's disposal practices were to continue unchanged (i.e., if 1 million cy per year of entrance channel sand were to continue being placed at HOODS indefinitely), the site would reach capacity again in about 31 years. However, the effective life of the expanded site could be much longer than 31 years if nearshore placement for beach or littoral system support were to begin at some point for some or all of the clean dredged sand.

Like Alternative 1, even if nearshore placement were to divert some or all of the sand from disposal at HOODS, fine sediment would continue to be disposed in the expanded HOODS footprint. However, unlike Alternative 1, the space available to manage this ongoing disposal in such a way as to minimize further mounding within the site boundaries would be reduced. Supporting information will be provided in the EA to be prepared.

3.2.4 Elements Common to Alternatives 1 & 2

Sediment Quality.

In accordance with MPRSA and the Ocean Dumping Regulations (40 CFR 227), USACE can only permit ocean disposal, and EPA will only concur in such disposal, when the dredged sediment is "suitable" for ocean disposal. Suitable for ocean disposal means that the sediment has no more than "trace" levels of chemical pollutants, as determined by bioassays showing that it is not directly toxic to marine organisms, and that any chemical pollutants present would not bioaccumulate in the food web to levels of ecological or human health concern. Clean sand dredged from high energy areas that are removed from immediate sources of pollution can often be determined by EPA and USACE to be suitable for ocean disposal without conducting extensive physical, chemical, and biological testing each year. This is true of Humboldt Bay entrance channel sand.

However, other sediments (such as those along the Eureka waterfront and in other Humboldt Bay marinas and docks) must be tested to support a suitability determination. In these cases, EPA and USACE first approve a Sampling and Analysis Plan (SAP) to ensure that the testing to be done is representative of the sediment to be dredged. The representative sediment samples are characterized physically and chemically, and a suite of seven bioassays is conducted for potential toxicity and bioaccumulation.

Sediment testing requirements for ocean disposal are detailed in the national “Ocean Testing Manual” (OTM) published jointly by EPA and USACE, available at <https://www.epa.gov/ocean-dumping/evaluation-dredged-material-proposed-ocean-disposal-green-book>. Only sediments that pass all of the bioassays can be considered for ocean disposal. Periodic monitoring of the various ocean disposal sites managed by EPA Region 9 has consistently confirmed that pre-dredge testing conducted in accordance with the OTM does adequately represent the sediment that is later dredged and dumped. Such monitoring was recently completed for HOODS in 2014 and is described in the synthesis report (https://www.epa.gov/sites/production/files/2016-09/documents/humboldt_open_ocean_disposal_site_hoods_2008-2014_monitoring_synthesis_report.pdf). Only sediment determined by EPA and USACE to be suitable for ocean disposal will be allowed for placement at HOODS in the future under either Alternative 1 or Alternative 2.

Need for Ocean Disposal.

Designation of an ocean disposal site does not mean that any future project will be approved to use it, even if the project’s sediment is “suitable.” The MPRSA and the Ocean Dumping Regulations (40 CFR 227.14) also direct that dredged sediment may only be permitted to be discharged at an ocean disposal site if there is a “need for ocean disposal.” A need for ocean disposal exists when EPA and USACE find that there are no practicable alternative locations and methods of disposal or recycling available for an individual dredging project. For dredged material, an important alternative to consider is whether there are “beneficial reuse” options available that would be practicable to use given the project’s location, timing, and logistics. A site for beneficial reuse that is not already permitted or otherwise authorized may not be practicable.

The need for ocean disposal is made on a project-by-project basis. Thus, if reuse is not feasible for an episodic dredging project in one year, it could be feasible in a future year if a reuse site becomes available. Cost associated with taking dredged material to a beneficial reuse site is a legitimate factor to consider, but cost need not be equal to or less than ocean disposal; a reuse site may be practicable if it is available at a “reasonable incremental cost” compared to ocean disposal (40 CFR 227.16(b)). Expansion of HOODS does not mean that reuse alternatives will cease to be evaluated for every project. EPA and USACE will continue to approve ocean disposal at HOODS only for projects that do not have a practicable alternative to ocean disposal available to them.

Example updated Tribal scoping letter, April 2019

From: Ross, Brian

Sent: Monday, April 15, 2019 11:56 AM

To: jsavage@trinidadrancheria.com

Cc: Ziegler, Sam <Ziegler.Sam@epa.gov>; Jennifer Siu <siu.jennifer@epa.gov>; Allan Ota (ota.allan@epa.gov) <ota.allan@epa.gov>

Subject: Updated HOODS expansion proposal

Dear Jonas Savage,

In January 2019, EPA emailed information to you about our proposal to expand the existing Humboldt Open Ocean Disposal Site (HOODS), which lies 3-4 miles offshore of Humboldt Bay. Today we are forwarding an updated Project Description that includes information about a proposed Nearshore Sand Placement Site (NSPS). The NSPS could reduce the volume of dredged material being disposed offshore at HOODS, while retaining clean sand in the nearshore zone to help buffer against the effects of sea level rise and coastal erosion over time.

EPA continues to be interested in any initial comments the Cher-Ae Heights Indian Community of the Trinidad Rancheria may have, so that we may reflect them in the Environmental Assessment we are currently preparing. We will initiate additional consultation with B Cher-Ae Heights Indian Community of the Trinidad Rancheria this summer, in accordance with the *EPA Policy on Consultation and Coordination with Indian Tribes* available at <https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes>.

Thank you in advance for any comments you may have on this matter. If you have any questions, please do not hesitate to contact me directly.

Brian D. Ross

Dredging & Sediment Management Team

US EPA Region 9 (WTR-2-4)

75 Hawthorne Street

San Francisco, CA 94105

415-972-3475

Note: EPA cannot receive attachments larger than 20 MB.

Attachment available at:

https://www.epa.gov/sites/production/files/2019-07/documents/hoods_expansion_synopsis_6-27-19.pdf

Project Description: Proposal to Expand EPA's Humboldt Open Ocean Disposal Site (HOODS) and Identify a Beneficial Nearshore Sand Placement Site (NSPS)

INTRODUCTION

The Humboldt Open Ocean Disposal Site (HOODS) was designated by the U.S. Environmental Protection Agency (EPA) in 1995, based on a full EIS, to provide an environmentally appropriate location for disposal of clean (non-toxic) sediments dredged from Humboldt Bay area navigation channels. The continued availability of an ocean dredged material disposal site (ODMDS) in the vicinity of Humboldt Bay is necessary to maintain safe deep-draft navigation via authorized federal channels and other permitted shipping facilities. The HOODS site has experienced significant mounding, creating the possibility of potentially hazardous navigation conditions in the future if the mounding worsens. Today, HOODS has limited remaining capacity to receive future dredge material disposals. While the situation does not constitute an imminent hazard, EPA and USACE have determined that expedited management action is required to prevent adverse conditions from developing. If disposal capacity at HOODS is not expanded soon, the ability to maintain Humboldt Bay navigation channels, and the commercial and recreational uses they support, is at risk.

EPA is in the process of preparing an environmental assessment to support this expansion. A preliminary evaluation has determined that expansion of the HOODS boundaries would continue to meet all the criteria and factors set forth in the Ocean Dumping regulations published at Parts 228.5 and 228.6 of Title 40 Code of Federal Regulations (CFR). These regulations were promulgated in accordance with the criteria set out in Sections 102 and 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA). The EA currently under preparation will describe compliance with these factors, as well as the National Historic Preservation Act, the Coastal Zone Management Act, and the Endangered Species Act.

1. BACKGROUND

1.1 Location

Humboldt Harbor and Bay is located in Humboldt County on the coast of Northern California (Figure 1), approximately 225 nautical miles north of San Francisco and approximately 156 nautical miles south of Coos Bay, Oregon. Humboldt Bay is the second largest coastal estuary in California. It is the only harbor between San Francisco and Coos Bay with channels large enough to permit the passage of large ocean-going vessels.

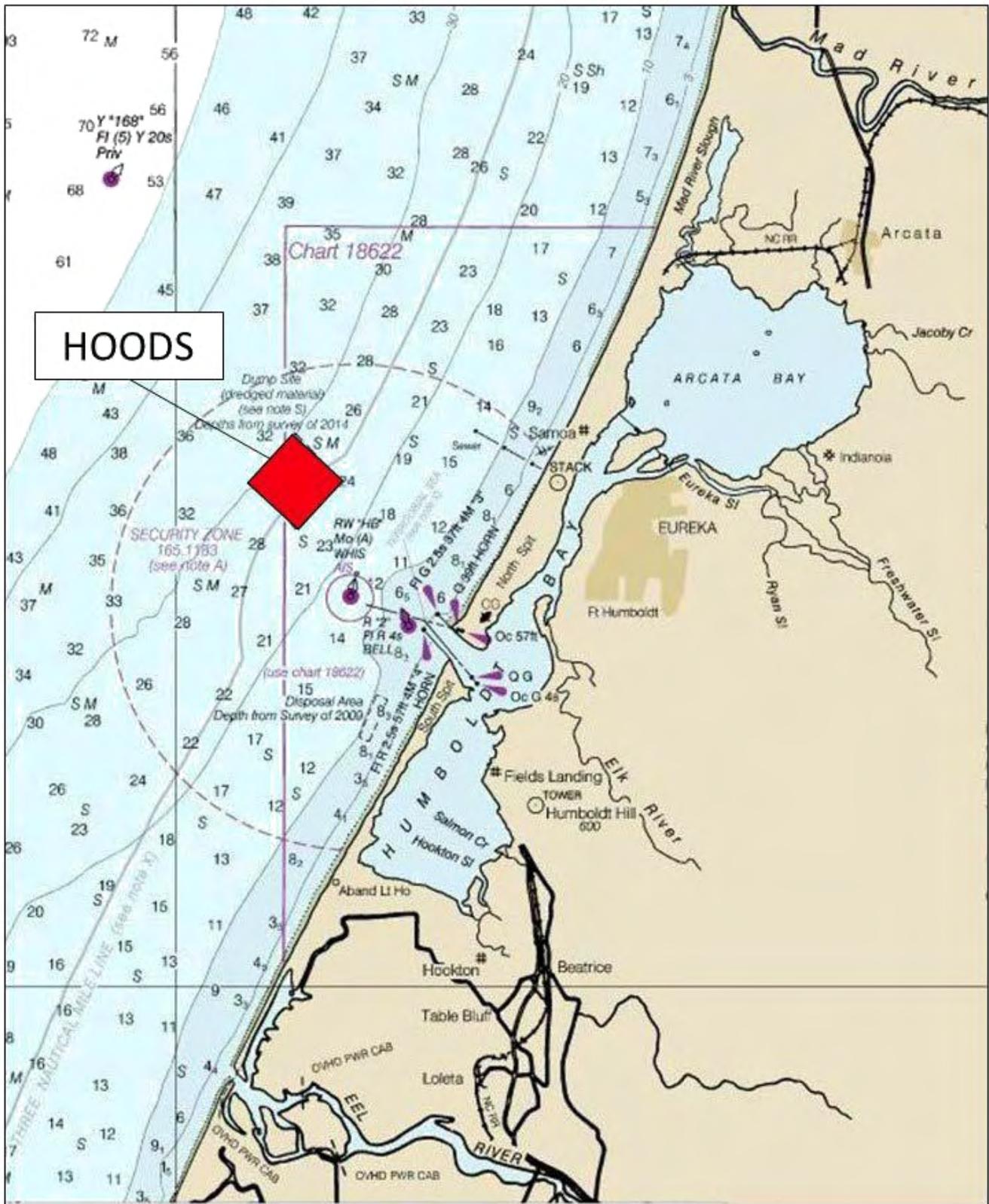


Figure 1: Humboldt Bay area, showing the location of the existing Humboldt Open Ocean Disposal Site (HOODS).

Humboldt Bay lies in a narrow coastal plain surrounded by rolling terraces, steep mountains, and narrow valleys typical of the coastal ranges in the region. Much of the forested area consists of coastal redwoods and Douglas fir. Eureka, the largest city on the north coast of California and the seat of Humboldt County, and its neighbor, Arcata, are the two largest cities bordering the Bay. Eureka, which is approximately five miles east of the entrance to the Bay, is accessible from the water by the North Bay and Eureka channels. Arcata, which is approximately seven miles north of Eureka, was once accessible from the Bay by the Arcata Channel; however, this channel is no longer in use.

Humboldt Bay is a naturally land-locked estuary composed of two large bays, the relatively shallow South Bay to the south and the larger Arcata Bay to the north. The Bay extends north and south for a distance of approximately 14 miles, covering 26.5 square miles at high tide and approximately 7.8 square miles at low tide. A long, narrow thalweg and a small bay, the Entrance Bay, connect South and Arcata Bays, providing an outlet to the Pacific Ocean. Humboldt Bay is separated from the Pacific Ocean by a sand spit that is incised by two large armored rubble-mound jetties – the North and South Jetties. These fabricated rubble-mound jetties, constructed by USACE, which are approximately 2,000 feet apart, define the entrance channel to Humboldt Harbor, which requires regular dredging to maintain safe navigation.

1.2 Humboldt Bay Navigation and Dredging History

Humboldt Bay has been dredged for navigation purposes for nearly 140 years (Table 1). USACE first began dredging Humboldt Bay's interior channels in 1881 to provide safe navigation within the bay. The first attempt at stabilizing the Entrance Channel to Humboldt Bay commenced in 1889 when USACE started constructing the North and South Jetties; they were completed in 1900. Since then, there have been periodic changes to Humboldt Harbor and Bay to provide safe navigation for ocean-going vessels of many sizes. Humboldt Bay is also a designated harbor of refuge with an important U.S. Coast Guard presence.

Today the USACE conducts annual operation and maintenance (O&M) dredging activities of the federal navigation channels in Humboldt Bay with disposal of the dredged material at HOODS (Figure 1). Maintenance dredging to maintain Humboldt Bay's navigation channels occurs in the Bar and Entrance Channels and in the Interior Channels (Table 2) any time between mid-March through the end of September. Typically, a large hopper dredges (e.g., the *Essayons*) works sandy areas at and near the entrance channel because smaller hopper dredges, and mechanical (clamshell) or cutterhead/pipeline dredges cannot operate safely in the rough seas encountered in the Entrance Channel. Smaller hopper dredges (e.g., the *Yaquina*) can safely work the Federal channels inside the Bay, and mechanical or pipeline dredging can be conducted in the interior marinas and commercial docks of Humboldt Bay.

During recent years, due to Federal budget limitations, USACE has focused on maintaining the Bar and Entrance Channel where clean sand deposits build up quickly. Entrance channel dredging alone has averaged approximately 1 million cubic yards (cy) each year, while interior channels and marinas/docks are dredged less frequently and generally dredge a relatively small volume compared the Bar and Entrance Channel (Figure 2, Table 3). However, USACE estimates that there is currently a backlog of approximately 4.5 million cy of sediment that would need to be dredged to return all of the Federal Channels to full authorized depth.

Table 1: General Chronology of Humboldt Harbor and Bay navigation improvements

DATE	DESCRIPTION
1806	First recorded chart of Humboldt Bay (Bay of the Indians) by the Wiyot Indians.
1849	Humboldt Bay rediscovered and named Trinity Bay.
1850	Renamed Humboldt Bay.
1853	First marker buoys used for the Bay.
1856	Light tower construction completed on North Spit.
1871	Studies for navigation improvements begin.
1881	600 vessels per year using the Bay.
1881	Brush and plank jetties constructed but destroyed the following winter.
1881	First USACE project authorized, the Eureka Channel is dredged.
1881	Arcata, Samoa, and Hookton Channels dredged for the first time.
1883	First survey for a low water jetty on the South Spit
1884	South Jetty authorized.
1887	Training wall was shown on South Spit Jetty plans.
1888	Dual jetties authorized.
1889	South Jetty construction commences (brush and stone construction).
1891	North Jetty construction commences.
1894	North Jetty built out to Bend 420, South Jetty built out to Bend 230.
1896	Bar Channel deepened to 25 feet deep and 100 feet wide.
1900	Initial jetty construction completed: 8,000 feet long, 5 to 10 feet above MLLW.
1911– 1917	Jetties damaged, repaired, and raised from original elevation of 10 to 12 feet MLLW to a reconstructed height of 18 feet above MLLW.
1939	Dual rubble-mound jetties completed.
1939	Entrance Channel completed: 30 feet deep and 500 feet wide.
1939	Eureka, Samoa, Arcata, and Fields Landing Channels initial construction completed.
1954	Entrance Channel deepening completed to 40 feet.
1954	Eureka and Samoa Channels deepening (30 feet) completed and North Bay Channel initial construction completed.
1959	Engineering and design study; repair North and South Jetties.
1960– 1963	Repair jetty damage of winter 1957–1958.
1964– 1965	Extreme damage to jetties, 100-ton blocks washed away.
1966– 1967	Repair and maintenance on North and South Jetties.
1969	Jetty repair study and model conducted by the USACE' Engineering Research and Design Center (ERDC) in Vicksburg, Mississippi.
1971	Humboldt Bay Bridge completed, connecting the North Spit with Eureka.
1971– 1973	Heads of both jetties completely destroyed, dolos placed on jetties.
1977	USACE names jetties a historical engineering landmark.
1995	EPA designates HOODS as a new permanent ODMDS
1999	Bar and Entrance Channel deepened to 48 feet MLLW and segments of the interior channels to –38 MLLW.
1999	Deepening of Samoa Turning Basin to 38 feet MLLW.
To date	USACE places an average of ~1,000,000 cy/year of entrance channel sand at HOODS

Table 2: Description of Humboldt Harbor Federal Navigation Channels

Channels	Authorized Depth (ft MLLW)	Width (ft)	Length (ft)	Typical Volume Annualized (cy)	Sediment Type
Bar and Entrance	48	500 - 1,600	8,500	1,100,000	Sand & gravel
North Bay	38	400	18,500	100,000	Sand
Samoa + Turning Basin	38	400 - 1,000	8,100 + 1,000	20,000	Sand
Eureka	35	400	9,700	25,000	Silt
Field's Landing + Turning Basin	26	300 - 600	12,000 + 800	6,000	Sand & Silt

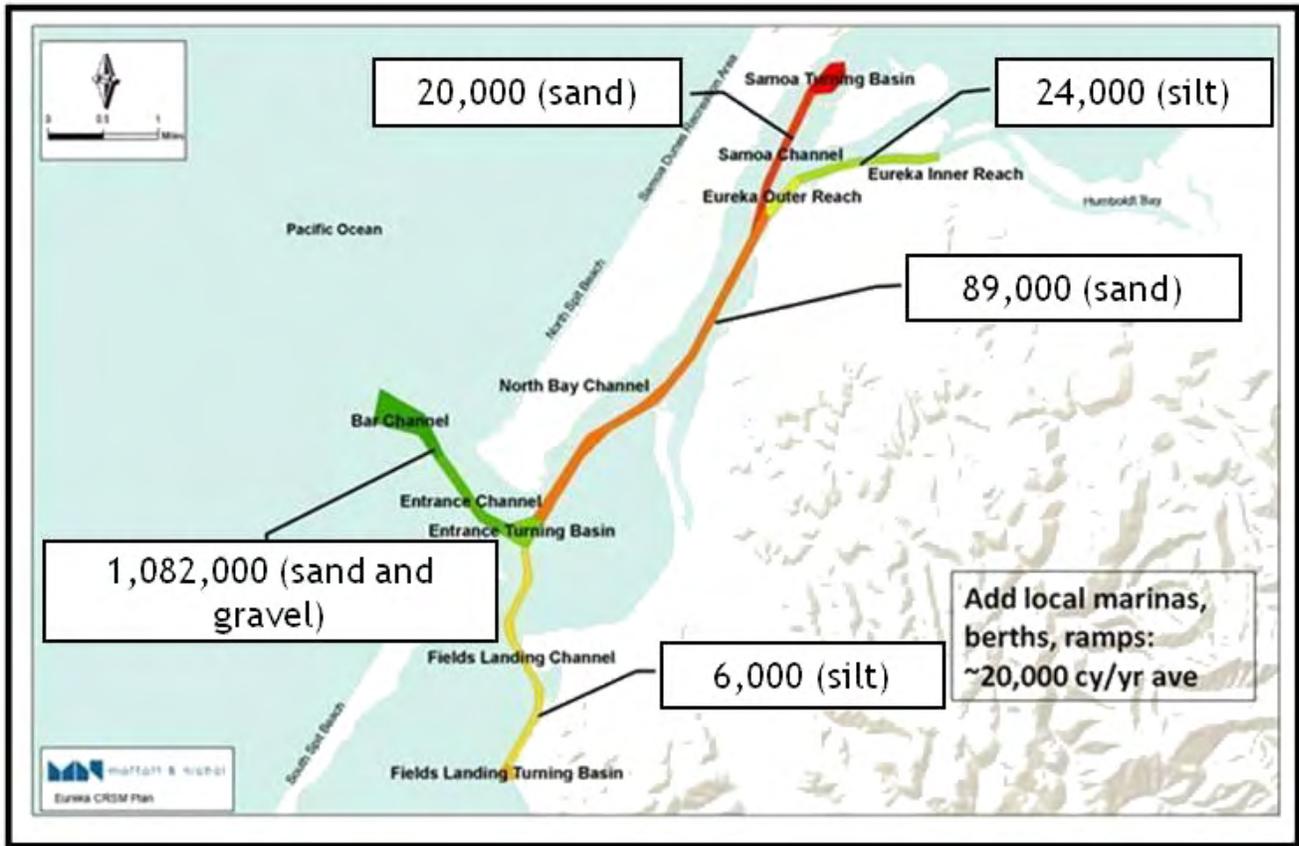


Figure 2: Humboldt Bay's federal navigation channels and the typical volume of sediment (cy) dredged from each, on an annualized basis. Note that several additional facilities are managed by other permittees (including the City of Eureka, the Humboldt Bay Harbor District, the US Coast Guard, and various commercial docks) that are also dredged periodically. But volumes dredged for those facilities are cumulatively much less than the USACE dredging.

Table 3: Recent annual dredging volumes for the federal channels, in 1,000s of cy.

Year	Large Hopper Dredges ¹	Small Hopper Dredges ²
2007	1,123	173
2008	1,094	217
2009	955	108
2010	770	0
2011	1,199	155
2012	1,183	0
2013	573	102
2014	625	0
2015	715	0
2016	1,715	0
2017	1,047	0
Total	10,999	755
Average	1,000	69

¹e.g., *Essayons*

²e.g., *Yaquina*

1.3 Ocean Disposal at HOODS

Ocean dredged-material disposal sites around the nation are designated by EPA under the authority of the Marine Protection, Research and Sanctuaries Act (U.S.C. 1401 et seq., 1972) and the Ocean Dumping Regulations at 40 CFR 220-228. Disposal-site locations are chosen based on several general and specific site selection factors (EPA 1995, and discussed further below), specifically to minimize cumulative environmental effects of disposal to the area or region where the site is located. Disposal operations must be conducted in a manner that allows each site to operate without significant adverse impacts to the marine environment, and without significant conflicts with other uses of the ocean.

The HOODS location was first used as a disposal site in September 1990, under a temporary designation by USACE pursuant to Section 103 of MPRSA. In 1995, EPA Region IX released a final Environmental Impact Statement entitled *Designation of an Ocean Dredged Material Disposal Site off Humboldt Bay, California*. The EPA's final rule on designating HOODS as a multi-user disposal under Section 102 of MPRSA was published in the Federal Register on September 28, 1995 (60 Fed. Reg. 50,108). The site designation became effective on October 30, 1995 for a period of 50 years. Since then, approximately 25,000,000 yd³ of dredged material have been placed there, the vast majority of which has been clean sand from the Bar and Entrance Channel.

HOODS is a square disposal site, covering one square nautical mile (nmi²) of the sea floor (Figure 1 and Figure 3) in water depths naturally ranging from approximately 150 to 180 feet. Its centroid is located approximately 3.5 nmi offshore of the seaward end of the Entrance Channel into Humboldt Bay. Table 4 lists the corner coordinates of the overall site.

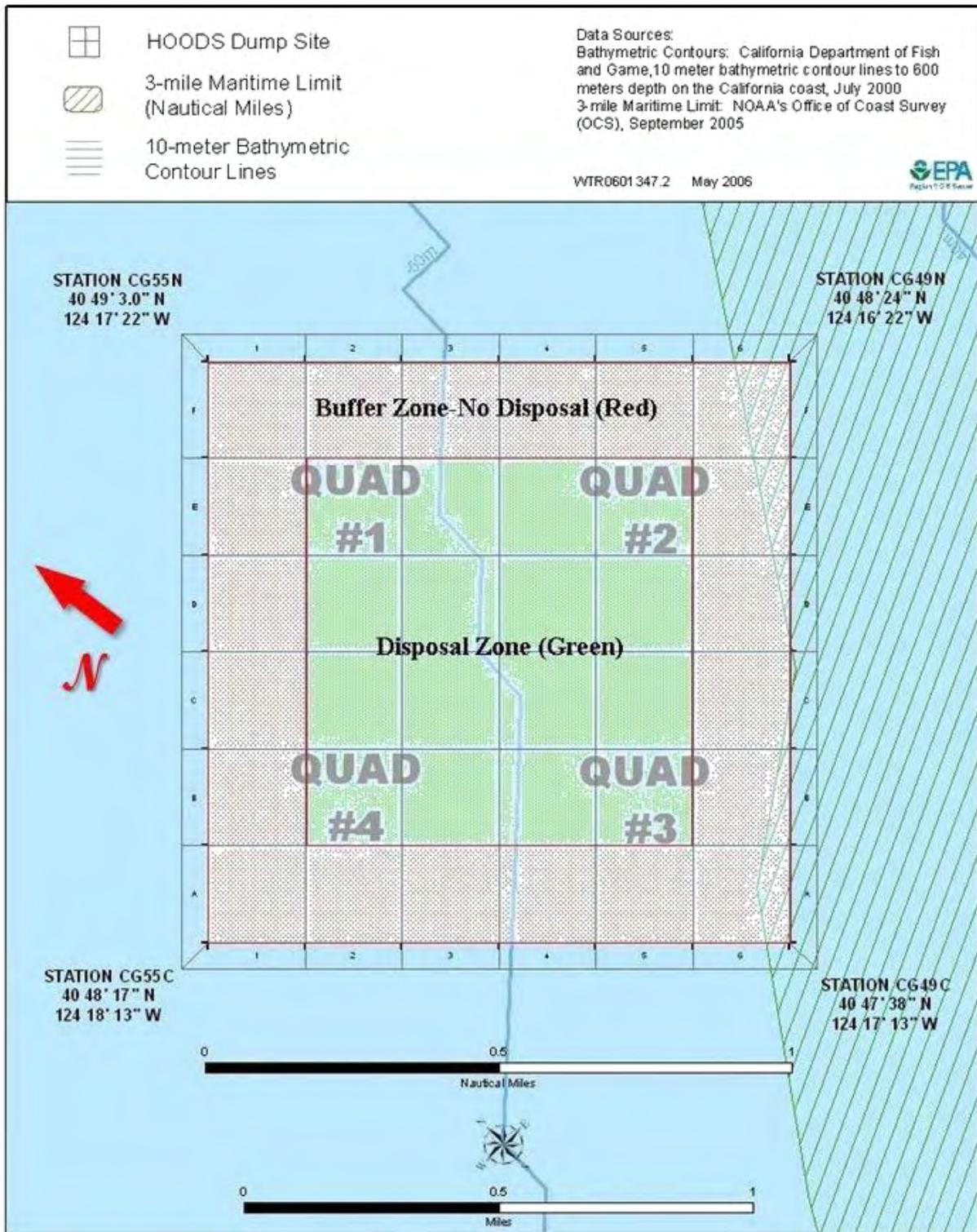


Figure 3: HOODS Detail. The site is divided into 4 quadrants and 36 individual cells. Initially, dredged-material disposal was only allowed in the green interior cells, so that material placed at the site would remain largely contained within the overall site boundaries. Over time, a number of the green interior cells have been closed in order to manage ongoing mounding at the site.

Table 4: HOODS existing corner coordinates (NAD 83).

Corner	Latitude	Longitude	Centroid Lat.	Centroid Long.
North	40° 49' 03" N	124° 17' 22" W		
East	40° 48' 24" N	124° 18' 22" W	40° 48' 20" N	124° 17' 17" W
South	40° 47' 38" N	124° 17' 13" W		
West	40° 48' 17" N	124° 18' 13" W		

The 1995 site designation EIS for HOODS identified a 50,000,000 cy capacity, and an estimated life of 50 years for HOODS based on a presumed average disposal rate of 1,000,000 cy/year. The 50,000,000 cy capacity equated to a mound at the site whose top elevation would not exceed approximately -130 feet mean lower low water (mllw). Mounding to much higher elevations (meaning, that created water shallower than -130 feet) was predicted to have the potential to affect the wave climate over the site during the largest winter storms. To avoid any such effect, and thereby avoid creating any potential navigation safety concerns, EPA has strictly managed how disposal occurs at HOODS. Under the HOODS Site Management and Monitoring Plan (SMMP), a cell-based management approach has been used to ensure that disposed material builds up (mounds) evenly at the site and does not substantially spread outside the site. Perimeter cells were used as a no-disposal buffer zone to ensure that most dredged material would be deposited on the seafloor within the overall site boundary. Individual disposal events (dump loads) are required to be discharged into interior cells only, and subsequent dumps must move to different interior cells. No cell can be used again until all allowable cells have been used. This method has ensured that mounding proceeds evenly, as confirmed by annual bathymetry surveys conducted by USACE. However, because the peripheral cells were used as a no-disposal buffer area, the effective site capacity was reduced to approximately 25,000,000 cy and 25 years.

1.4 Mounding of Sand at HOODS

The USACE San Francisco District monitors bathymetric condition at HOODS typically twice each year, before and after dredging and disposal. (Hydrographic surveys going back to at least 2009 are available on the USACE web site at <https://www.spn.usace.army.mil/Missions/Surveys-Studies-Strategy/Hydro-Survey/Humboldt-Bay-Channel/>). Over the years, several cells (especially near the center of the site) began to reach the -130 foot target depth. As this occurred, EPA closed such cells to further disposal. By 2014, the majority of the inner cells had reached, and in some cases somewhat exceeded, the -130 foot target (Figure 4, Figure 5). In consequence, beginning in 2015 EPA authorized ongoing disposal to occur only in deeper areas over the slopes of the disposal mound, halfway into the buffer cells of the existing site (Figure 6). This adaptation was expected to allow approximately 5 more years of additional disposal (at typical annual volumes), while still retaining the vast majority of the sand within the site boundaries. (This approach is reasonable specifically because the material being disposed by USACE is virtually all sand, which does not spread far from the placement location, the way silts or clays could, before settling on the bottom.) GPS-based monitoring of individual disposal events (a requirement of the SMMP for all projects using the disposal site) confirmed that the dredging equipment used by USACE is capable of successfully disposing of material with precision, in the new smaller cells (Figure 7).

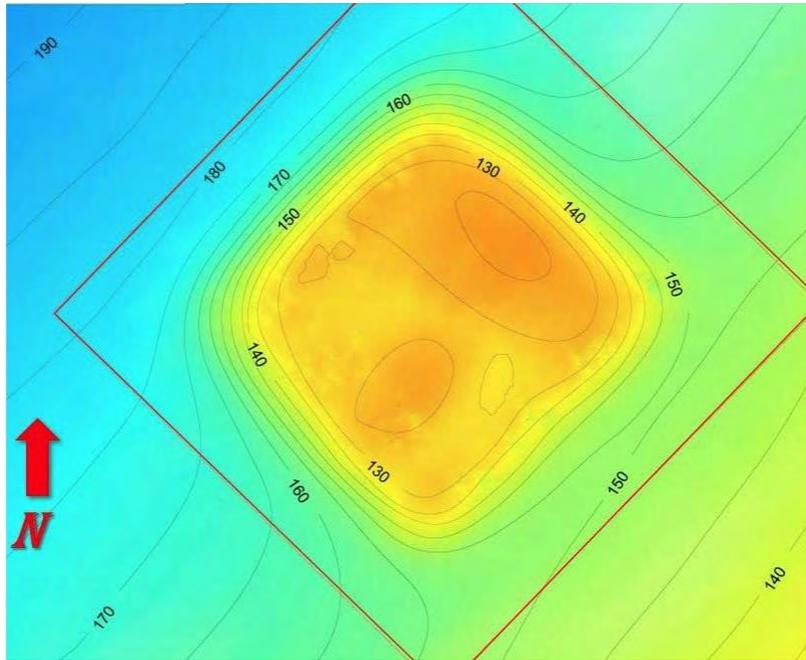


Figure 4. Shaded relief depiction of bathymetry at HOODS as of August 2014, showing mounding to -130 feet or less over much of the site. Red box is the existing disposal site boundary. Contours are in 5-foot intervals. Depths are shown in feet MLLW.

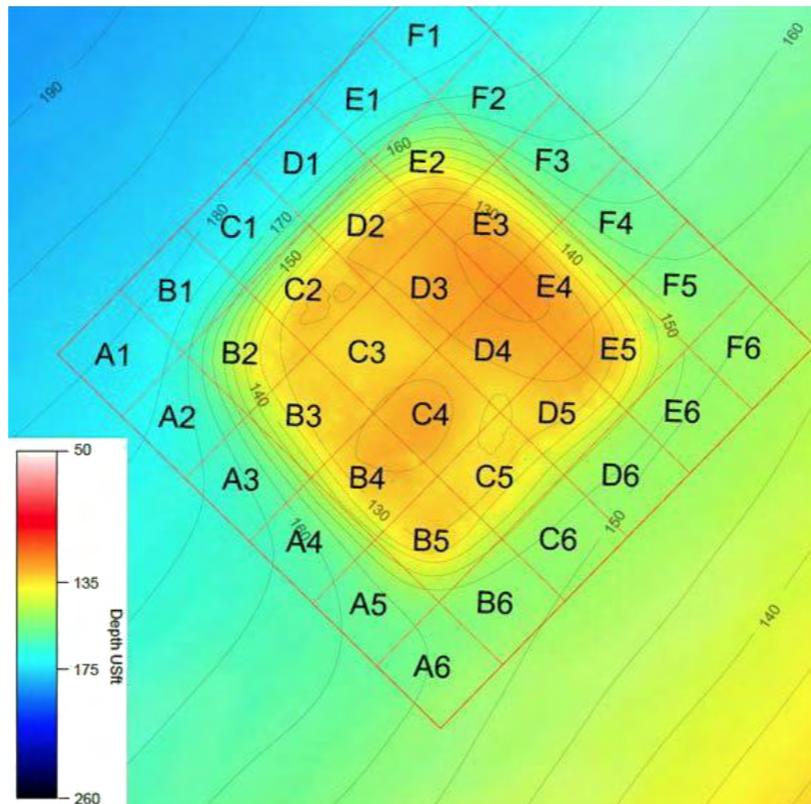


Figure 5. Map of HOODS disposal cells overlain on bathymetry from August 2014. Depths are in feet MLLW.

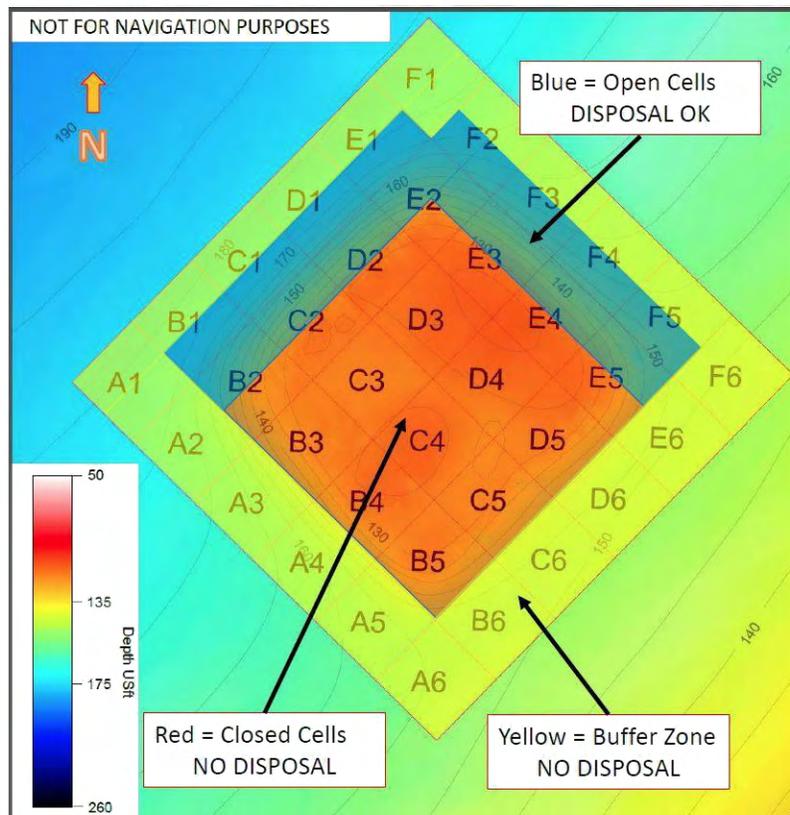


Figure 6. Open and closed disposal cells at HOODS starting in 2015, with disposal only allowed over the north and west slopes of the mound including portions of eight Buffer Zone cells on those sides. This increased short-term disposal capacity by 5.6 - 8 million cy, enough for approximately 5 more years, or through 2020.

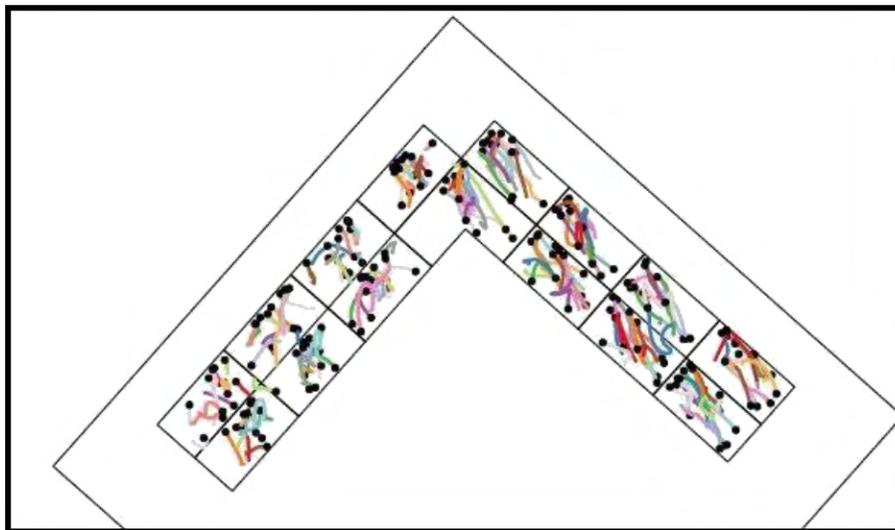


Figure 7. Locations of actual disposal events at HOODS in 2015. All disposal actions occurred successfully within the modified disposal cells, despite most of them being only ½ the size of previously-allowed disposal cells. Dots with lines show starting point and track of individual disposal events.

Bathymetric survey results from March 2018 led EPA to close additional portions of cells B2, C2, and D2 to further disposal in 2018 (Figure 8). Based on this adaptive management approach, EPA expects there to be adequate disposal capacity at HOODS through at least the year 2020.

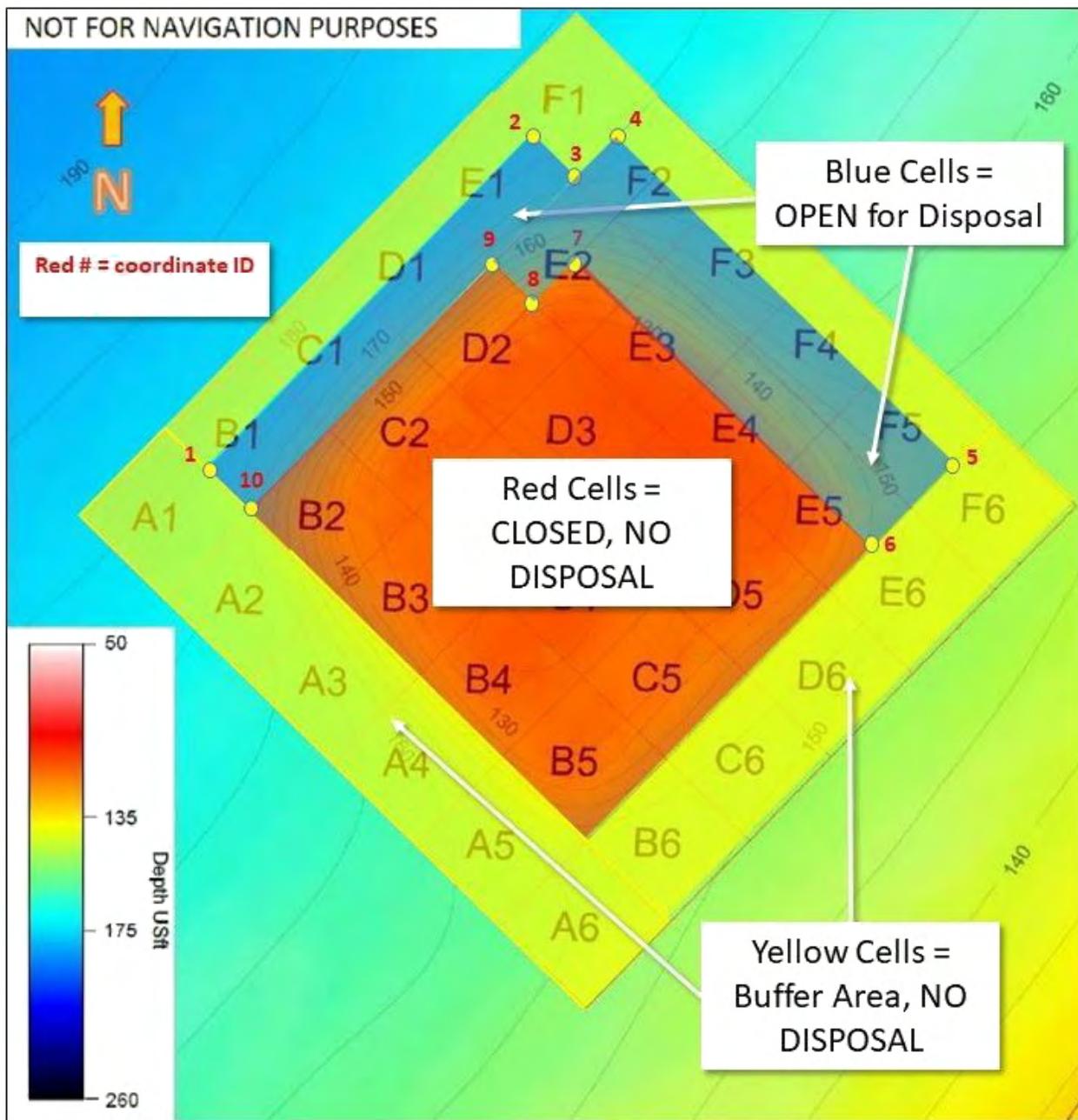


Figure 8. Open and closed disposal cells at HOODS for 2018 and 2019. Mounding from ongoing disposal since 2015 has led to the closure of further portions of cells B2, C2, and D2. (Figure shows cell boundaries overlain on 2014 bathymetry.)

2. PURPOSE AND NEED FOR ACTION

2.1 Statutory and Regulatory Requirements

The Marine Protection, Research and Sanctuaries Act of 1972, as amended (MPRSA), also known as the Ocean Dumping Act, was passed in recognition of the fact that the disposal of material into ocean waters could potentially result in unacceptable adverse environmental effects. Under Title I of the MPRSA, the EPA and USACE were assigned responsibility for developing and implementing regulatory programs to ensure that ocean disposal would not “... unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.”

The EPA administers and enforces the overall program for ocean disposal. As required by Section 104(a)(3) of the MPRSA, ocean disposal of dredged material can occur only at a site that has been designated to receive dredged material. Pursuant to Section 102(c), the EPA has the responsibility for permanent site designation, while under Section 103 USACE can designate project-specific disposal sites on a temporary basis if an EPA-designated disposal site is not available.

The MPRSA criteria (40 CFR, Part 228) states that EPA’s site designations under Section 102(c) must be based on environmental studies, and on historical knowledge of the impact of dredged material disposal on similar areas. General criteria (40 CFR 228.5) and specific factors (40 CFR 228.6) that must be considered prior to site designation were addressed in the 1995 HOODS EIS. That evaluation was updated based on monitoring conducted in 2008 and 2014, and documented in EPA’s 2016 monitoring synthesis report¹.

Related federal statutes applicable to the ocean disposal site designation process include the National Environmental Policy Act of 1969 as amended; the Coastal Zone Management Act of 1972 as amended; the Endangered Species Act of 1973 as amended; the Magnuson-Stevens Fisheries Conservation and Management Act of 1976 as amended; and the National Historic Preservation Act of 1966, as amended, as well as Executive Orders that may apply. Issues raised as a result of consultations with Federal and State agencies and Tribes will be addressed in the EA to be prepared.

Finally, an EPA-designated site requires a site management and monitoring plan (SMMP). Use of the designated site is subject to any restrictions included in the SMMP, which is expected to be reconsidered at least every 10 years. The original SMMP for HOODS was updated in 2006 after EPA conducted preliminary monitoring of the site. A revised draft SMMP will be included in the EA to be prepared.

2.2 Purpose of the Proposed Action

HOODS Expansion: The primary purpose of the proposed action is to expand the boundaries of the existing HOODS ocean disposal site in order to provide capacity for ongoing environmentally acceptable disposal of suitable dredged material from Humboldt Harbor navigation channels and other facilities. This would occur as a rulemaking action by EPA under the MPRSA.

¹ https://www.epa.gov/sites/production/files/2016-09/documents/humboldt_open_ocean_disposal_site_hoods_2008-2014_monitoring_synthesis_report.pdf.

Ocean disposal currently remains necessary for most navigation dredging projects in and around Humboldt Bay, due to a lack of available upland or beneficial reuse alternatives. Although various efforts are under way to create upland placement and reuse opportunities in the area, only extremely limited capacity is presently available. Capacity for some degree of ocean disposal of suitable sediment will remain important in the future, even if new reuse opportunities become available over time. Figure 9 shows the location of the existing HOODS and the alternative expansion footprints under consideration.

Identification of a Potential Nearshore Reuse Site as an Alternative to HOODS Disposal: As noted, the vast majority of the sediment volume dredged each year from Humboldt Bay is clean entrance channel sand removed by USACE (or USACE-contracted) hopper dredges. These vessels are typically available to work the Humboldt Federal channels for only a prescribed number of days each year, and their ability to place material at confined or upland sites is extremely limited at present (e.g., the USACE hopper dredge *Essayons* is not equipped for pump-out of sediment from the hopper, and can only bottom-dump).

Therefore, in parallel to the proposed action, EPA also proposes to describe a Nearshore Sand Placement Site (NSPS) that represents a potential long-term alternative to HOODS for placement of clean sand dredged by USACE. The NSPS is a rectangle approximately 0.65 nmi (1.2 km) wide by 3 nmi (5.6 km) long (north to south) in water depths from approximately 30 – 80 feet, beginning approximately 0.4 nmi (0.75 km) offshore (Figure 9). Placement of some or all of the entrance channel sand in this nearshore area would constitute beneficial placement, rather than waste disposal, in that it would return sand to the littoral system north of the Humboldt Bay entrance thus helping to limit or buffer against shoreline erosion there. (In contrast, sand disposed at HOODS is effectively removed from the littoral system and does nothing to support shoreline resiliency. In fact, it is a large net remover of sand from the littoral system, potentially adding to local shoreline erosion effects over time, particularly as sea level rise accelerates in the future.) Placement of sand at the NSPS would also reduce ongoing mounding concerns at HOODS, prolong the useful life of the expanded ocean disposal site, and allow a smaller offshore disposal “footprint” to be used over time. Possible future establishment of the NSPS as a long-term placement site would occur separately as a joint EPA-USACE action under the CWA (specifically, under the 404(b)(1) regulations at 40 CFR Part 230.80).

2.3 Need for the Proposed Action

The need for the Proposed Action of expanding the HOODS boundaries is that the existing site is effectively “full”. Since the site was designated in 1995, disposal of approximately 25,000,000 cy of sand has occurred, resulting in a mound with an elevation averaging approximately -130 feet mllw. The original EIS identified as this as the maximum desirable mound elevation. Ongoing mounding substantially above this elevation could begin to affect the action of waves in large storm events, potentially causing navigation safety concerns for vessels transiting the area. At the same time, ongoing dredging of the Humboldt Harbor navigation channels and related maritime facilities is necessary to ensure continued safe navigation to and within Humboldt Bay itself. Such safe navigation is crucial to the maritime-related commerce of the area. Therefore, reliable capacity to accommodate disposal or reuse of area dredged material will continue to be critically needed, and HOODS as it is currently configured will no longer be able to provide such capacity beginning in approximately 2020.

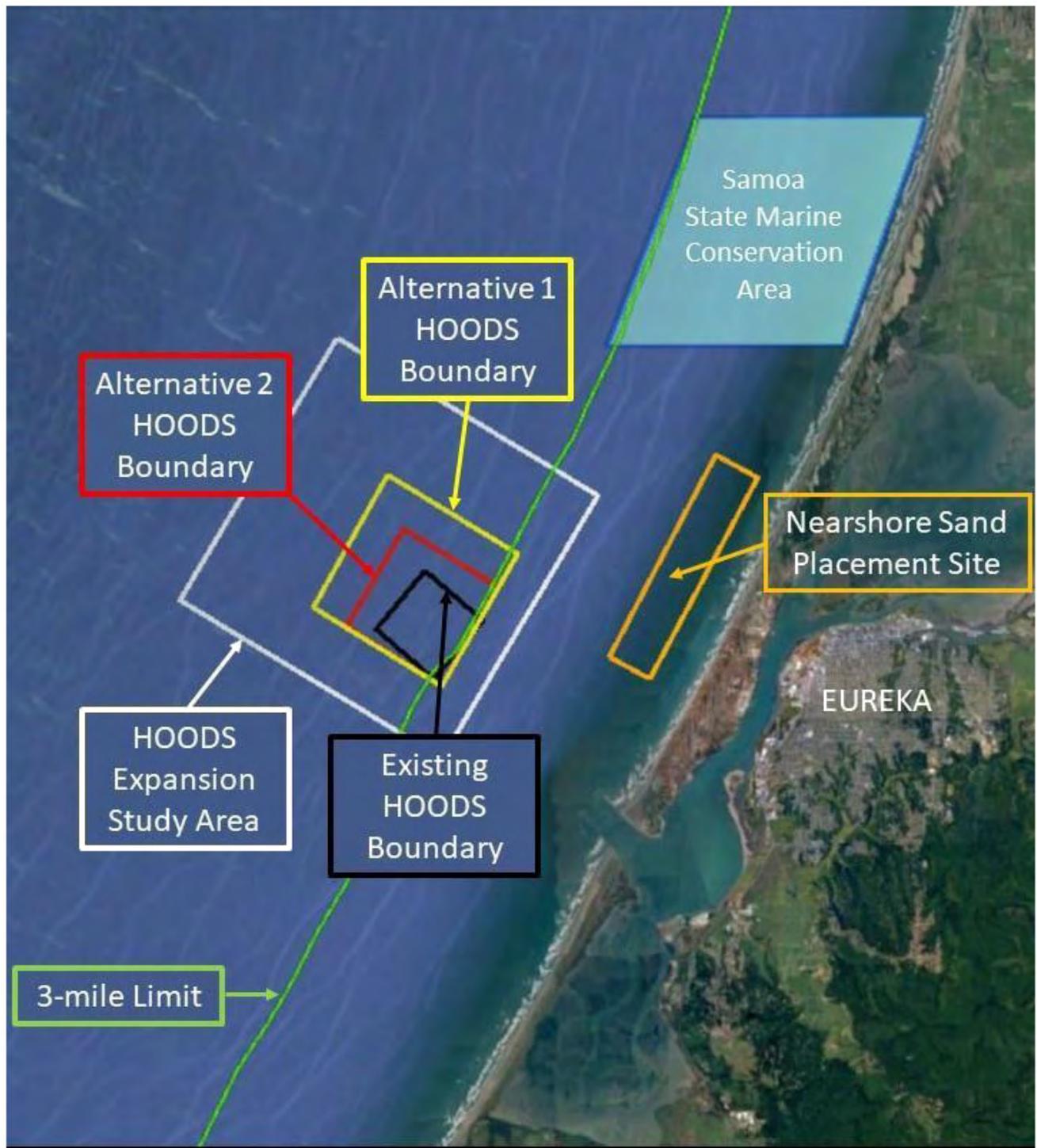


Figure 9. Proposed Action area, showing the current HOODS site, and the two boundary expansion alternatives in relation to Humboldt Bay, the City of Eureka, and the Samoa State Marine Conservation Area. Alternative 1 (proposed action) would expand the existing boundaries by 1 nmi to the north and to the west, while Alternative 2 would expand the boundaries by ½ nmi to the north and west. Also shown is the location of the Nearshore Sand Placement Site (NSPS).

3. HOODS EXPANSION OPTIONS

3.1 Alternative 1 (Preferred): Expansion by 1 nmi

Alternative 1, the Proposed Action, is to expand the existing HOODS boundary by 1 nmi to the north (upcoast) and 1 nmi to the west (offshore) (Figure 9). Alternative 1 is the Preferred Alternative because it would provide environmentally acceptable disposal capacity for many years, while also affording the most operational flexibility for managing the dredged material in a manner that would further minimize even physical impacts over time. This configuration would result in the total area of the site increasing from 1 square nmi to 4 square nmi. The effective total capacity of the site would increase from the original 25 million cy (see Section 1.3) to over 100 million cy (i.e., allowing for 75 million cy of additional disposal to occur), before mounding to -130 feet could again occur across the entire site. If today's disposal practices were to continue unchanged (i.e., if 1 million cy of entrance channel sand per year were to continue being placed at HOODS indefinitely), the site would reach capacity again in about 75 years. However, the effective life of the expanded site could be much longer than 75 years if nearshore placement for beach or littoral system support were to begin at some point for the clean dredged sand. In that event, disposal of fine sediment would continue in the expanded HOODS footprint, but it could be managed in such a way that little or no additional long-term mounding would occur at all. Supporting information, including evaluation of the No Action alternative, will be provided in the EA.

Table 5: HOODS Alternative 1 corner coordinates (NAD 83).

Corner	Latitude	Longitude	Centroid Lat.	Centroid Long.
North	40° 50' 33" N	124° 18' 00" W		
East	40° 49' 27" N	124° 15' 45" W	40° 49' 05" N	124° 17' 35" W
South	40° 47' 38" N	124° 17' 13" W		
West	40° 48' 47" N	124° 19' 31" W		

3.2 Alternative 2: Expansion by 1/2 nmi

Alternative 2 is the expansion of the existing HOODS boundary by 1/2 nmi to the north (upcoast) and 1/2 nmi to the west (offshore) (Figure 9). This configuration would result in the total area of the site increasing from 1 square nmi to 2.25 square nmi. The effective total capacity of the site would increase from the original 25 million cy (see Section 1.3) to approximately 56 million cy (i.e., allowing for approximately 31 million cy of additional disposal to occur), before mounding to -130 feet could again occur across the entire site. If today's disposal practices were to continue unchanged (i.e., if 1 million cy per year of entrance channel sand were to continue being placed at HOODS indefinitely), the site would reach capacity again in about 31 years. However, the effective life of the expanded site could be much longer than 31 years if nearshore placement for beach or littoral system support were to begin at some point for some or all of the clean dredged sand.

Like Alternative 1, even if nearshore placement were to divert some or all of the sand from disposal at HOODS, fine sediment would continue to be disposed in the expanded HOODS footprint. However, unlike Alternative 1, the space available to manage this ongoing disposal in such a way as to minimize further mounding within the site boundaries would be reduced. Supporting information will be provided in the EA to be prepared.

Table 6: HOODS Alternative 2 corner coordinates (NAD 83).

Corner	Latitude	Longitude	Centroid Lat.	Centroid Long.
North	40° 49' 58" N	124° 17' 54" W		
East	40° 49' 26" N	124° 15' 44" W	40° 48' 46" N	124° 17' 27" W
South	40° 47' 38" N	124° 17' 13" W		
West	40° 48' 30" N	124° 18' 57" W		

3.3 Elements Common to Alternatives 1 & 2

Sediment Quality.

In accordance with MPRSA and the Ocean Dumping Regulations (40 CFR 227), USACE can only permit ocean disposal, and EPA will only concur in such disposal, when the dredged sediment is “suitable” for ocean disposal. Suitable for ocean disposal means that the sediment has no more than “trace” levels of chemical pollutants, as determined by bioassays showing that it is not directly toxic to marine organisms, and that any chemical pollutants present would not bioaccumulate in the food web to levels of ecological or human health concern. Clean sand dredged from high energy areas that are removed from immediate sources of pollution can often be determined by EPA and USACE to be suitable for ocean disposal without conducting extensive physical, chemical, and biological testing each year. This is true of Humboldt Bay entrance channel sand.

However, other sediments (such as those along the Eureka waterfront and in other Humboldt Bay marinas and docks) must be tested to support a suitability determination. In these cases, EPA and USACE first approve a Sampling and Analysis Plan (SAP) to ensure that the testing to be done is representative of the sediment to be dredged. The representative sediment samples are characterized physically and chemically, and a suite of seven bioassays is conducted for potential toxicity and bioaccumulation.

Sediment testing requirements for ocean disposal are detailed in the national “Ocean Testing Manual” (OTM) published jointly by EPA and USACE². Only sediments that pass all of the bioassays can be considered for ocean disposal. Periodic monitoring of the various ocean disposal sites managed by EPA Region 9 has consistently confirmed that pre-dredge testing conducted in accordance with the OTM does adequately represent the sediment that is later dredged and dumped. Such monitoring was recently completed for HOODS in 2014 and is described in the synthesis report³. Only sediment determined by EPA and USACE to be suitable for ocean disposal will be allowed for placement at HOODS in the future under either Alternative 1 or Alternative 2. (In addition, only clean sand would be allowed for placement at the NSPS in the future.)

Need for Ocean Disposal.

Designation of an ocean disposal site does not mean that any future project will be approved to use it, even if the project’s sediment is “suitable.” The MPRSA and the Ocean Dumping Regulations (40 CFR 227.14) also direct that dredged sediment may only be permitted to be discharged at an ocean disposal site if there is a “need for ocean disposal.” A need for ocean disposal exists when EPA and

² <https://www.epa.gov/ocean-dumping/evaluation-dredged-material-proposed-ocean-disposal-green-book>

³ https://www.epa.gov/sites/production/files/2016-09/documents/humboldt_open_ocean_disposal_site_hoods_2008-2014_monitoring_synthesis_report.pdf

USACE find that there are no practicable alternative locations and methods of disposal or recycling available for an individual dredging project. For dredged material, an important alternative to consider is whether there are beneficial placement or reuse options available that would be practicable to use given the project's location, timing, and logistics. A site for beneficial placement that is not already permitted or otherwise authorized may not be practicable.

The need for ocean disposal is determined on a project-by-project basis. Thus, if beneficial placement is not feasible for an episodic dredging project in one year, it could be feasible in a future year if a reuse site becomes available. Cost associated with taking dredged material to a beneficial use placement site is a legitimate factor to consider, but cost need not be equal to or less than ocean disposal; an alternative site may be practicable if it is available at a "reasonable incremental cost" compared to ocean disposal (40 CFR 227.16(b)). Expansion of HOODS does not mean that alternatives will cease to be evaluated for every project. EPA and USACE will continue to approve ocean disposal at HOODS only for projects that do not have a practicable alternative to ocean disposal available to them.

Nearshore Sand Placement Site (NSPS).

While monitoring at HOODS has confirmed that there have been no direct adverse impacts from offshore disposal, neither does offshore disposal provide any direct environmental benefits. An obvious potential alternative to ocean disposal of clean sand at HOODS would be its placement at a shallower nearshore site for the purpose of littoral system support or beach nourishment.⁴ Shallow water placement of clean sand happens at many locations in California, elsewhere on the west coast, and nationwide. Such placement can help buffer against coastal erosion and the effects of sea level rise.

However, to be practicable for USACE to use with its currently available equipment, such a site must be in water deep enough for USACE's bottom-dump dredge vessels to operate safely. At the same time, to successfully reintroduce sand into the littoral transport system that supports the shoreline and beach, such a site must be shallower than the "depth of closure" (the depth below which normal seasonal wave action can naturally move the sand toward shore). For the Humboldt Bay area these competing considerations mean that a nearshore sand reuse site should be in water depths no greater than approximately 75 feet, and no shallower than approximately 35 feet. Sand placed within this depth range should not result in adverse or permanent mounding, as has occurred at HOODS, because seasonal wave and current action would be able to move the sand within the littoral system.

When HOODS was originally designated in 1995, the San Francisco District of the USACE established the Humboldt Shoreline Monitoring Program (HSMP). The HSMP was established based on California Coastal Commission (CCC) concerns that the placement of large volumes of sand in the relatively deep waters of HOODS could disrupt the supply of sand which would typically support local beaches. As a result, the objective of the HSMP are to (1) monitor the surrounding shoreline for excessive shoreline retreat, (2) determine the cause of any excessive shoreline retreat that is observed, and (3) recommend corrective action should sediment disposal at HOODS be the cause. Under the HSMP periodic shoreline monitoring has occurred several times, most recently in 2016. Associated with that ongoing work, a version of the proposed NSPS was identified as a possibly appropriate

⁴ Sand placed at HOODS is in water too deep, and too far offshore, for normal seasonal transport processes to move it back into the littoral transport system. Placing sand at HOODS therefore removes it from the littoral system and is considered "disposal", as opposed to "beneficial placement" that reintroduces the sand back into the littoral system.

location by USACE in its “*Five-Year Programmatic Environmental Assessment, 404(b)(1) Analysis, and FONSI, Humboldt Harbor and Bay Operations and Maintenance Dredging (FY 2012 – FY 2016)*” (USACE 2012). USACE did not pursue nearshore placement at that time, noting the need to conduct and monitor demonstration placements at the site before proposing whether the site should be formally identified for ongoing use.

The EA under preparation will draw from and update the information in the 2012 USACE EA. For example, the dimensions of the NSPS have been substantially reduced from the 2012 USACE recommendation in order to avoid any overlap or conflict with the recently established Samoa State Marine Conservation Area to the north (see Figure 9). The upcoming EA will not formally designate the NSPS but will provide documentation pursuant to NEPA and other applicable Acts that USACE may use as a basis for proposing to conduct sand placement demonstration operations there. If the site is subsequently shown (via monitored demonstration placements) to have no significant adverse environmental impacts, EPA and USACE could propose to formally designate it for ongoing use. Any such designation would involve a separate Clean Water Act noticing and public comment process (under 40 CFR 230.80). Any long-term use of the NSPS would be managed in concert with either HOODS expansion Alternative 1 or Alternative 2. In either case, nearshore beneficial placement of clean sand would directly extend the operational life of HOODS by reducing the amount of sand disposal (and therefore mounding) occurring there.

